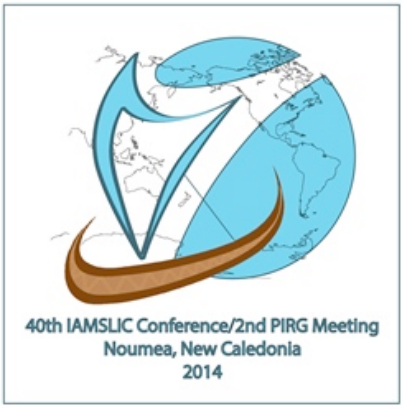
FORTY YEARS OF SAILING:

CONNECTING ISLANDS IN A DIGITAL WORLD

Proceedings of the 40th IAMSLIC Conference

September 14-18, 2014

Noumea, New Caledonia



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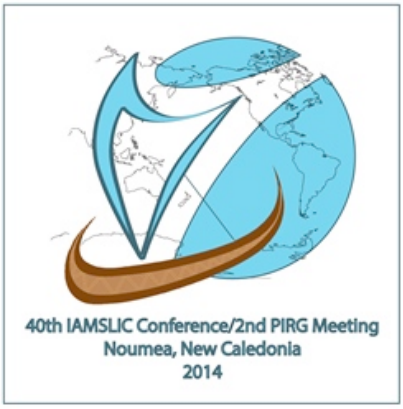

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40th International Association of Aquatic and Marine Science Libraries and Information Centres (IAMSLIC) Conference and 2nd Pacific Islands Regional Group (PIRG) Meeting

Theme: *Forty Years of Sailing: Connecting Islands in a Digital World*

September 14–18, 2014 – Noumea, New Caledonia

CPS Secrétariat général de la Communauté du Pacifique

SPC Secretariat of the Pacific Community

DEDICATION

These proceedings are dedicated to dear colleagues we have lost this year:

Susan Barrick
Catherine Norton
Johnson Seeto

To long-time members who retired in 2014:

Beth Fuseler Avery
Helen Ivy
María Clara Ramírez Jáuregui
Susan Stover

And to the **founding members of IAMSLIC** who since the 1970's have inspired the association to bring together marine and aquatic science librarians across the globe.

FORTY YEARS OF SAILING: CONNECTING ISLANDS IN A DIGITAL WORLD

Proceedings of the 40th IAMSLIC Conference, Noumea New Caledonia, September 14-18 2014

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Editor's Notes

Dorothy Barr
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New Caledonia! I think that for many of us in North America and Europe it has an exotic sound, and for me it is on the opposite side of the world so it was an adventure just getting there. Since I live in the American northeast, the vastness of the Pacific always comes as a bit of a surprise and a reminder of how very blue our little planet is – and how fragile.

The 40th IAMSLIC Conference was my 7th, and they just get better and better. I never know whether the best part is seeing old friends or meeting new ones – or both.

Guillermina did an amazing job organizing a conference so far from home, and everything ran with unbelievable smoothness. The program was outstanding and included a mix of presenters from all over; what a great way to learn from colleagues working in very different places and circumstances! Kudos to everyone.

Mary-Clare and her wonderful team did us proud; everything was anticipated and prepared, from arrival at the airport through the conference sessions (held in a stately room fit for diplomats), the food (yum!), the train tour of Noumea, the banquet and finally departure. We never had to worry about where to go or how to get there. Yet Mary-Clare was always calm, never looked frazzled, just took us smoothly from one activity to the next.

It was a conference to remember with memories to savor. Next year, onward to Rome!

INTRODUCTION

Guillermina Cosulich
40th IAMSLIC Conference Chair & Convener 2014
IAMSLIC President 2014/2015

Welcome to the Proceedings of the 40th IAMSLIC Conference held during September 14-18, 2014 at Noumea, New Caledonia. Under the motto **"**Forty years of sailing: Connecting islands in a digital world" we were not only celebrating our Anniversary but also meeting far away from where the association was once born. Indeed, IAMSLIC has journeyed for forty years surfing the oceans and continental waters connecting five Regional Groups, sharing skills, knowledge and information on marine and aquatic sciences.

We will continue "sailing." This has been a wonderful experience that you may also live through these *Proceedings*. Presentations can be found here on Pacific networks and collaboration, on challenges and library cases of the region, on preservation of special collections, on new trends in data management and open access and, of course, on disaster planning and recovery. You will learn how colleagues manage libraries whle coping with a wide range of geographic, political and technological constraints and overcoming difficulties with the help that IAMSLIC can provide. Talks by our keynote speakers, Dr. Moses Amon and Dr. Franck Magron, from the Secretariat of the Pacific Community (SPC), introduced the audience on the problems and challenges of fisheries and dissemination of the information in the Pacific region catching everybody's interest and attention.

The presentations were enjoyed by almost 35 enthusiastic attendees from Kiribati, Samoa, Solomon Islands, Fiji, New Zealand, Philippines and Vietnam, among other countries, with a total of 17 oral presentations, 7 posters and 2 panels. We are grateful to Mary Clare Ame, our local host and Coordinator of the Pacific Island Regional Group (PIRG), who obtained important regional funding to support participants who were then able to also attend a successful 2nd Meeting held on September 15th.

I personally enjoyed very much those informal moments when knowledge was flowing easily from senior members to newcomers so that they know better now how to get the best out of our Z39.50 Distributed Library and the Interlibrary Loan program; what Aquatic Commons is; and, thanks to Steve Watkins' contribution, "how to make digital content available where internet is not."

Several activities were related to our Anniversary - a birthday cake, posters. and talks on why it is so important to belong to this association. One of the panels was also dedicated to the 40 years of IAMSLIC, on our past, present and future. Remembrances and collected photos are now shared at our website page "Our Story."

The vision and passion that started forty years ago continues to drive this specialized librarian association into the digital world and into a world of collaboration. The Conference was excellent because of the efficient work of our local hosts from SPC, the conference planning committees, our committed sponsors and the hard efforts of presenters, moderators and attendees. To them, my most sincere appreciation!

I hope you all will find these *Proceedings* interesting and motivating.

"May the future years exhibit the same growth, global outlook and enthusiastic involvement of all our members" - Judy Ashmore, Carol Winn, 1975.

And last but not least, you are invited to our next 41st IAMSLIC Conference that will be held at FAO in Rome, September 7-11, 2015, in conjunction with the 16th EURASLIC Biennial Meeting.

PRESIDENT'S WELCOME

Sally Taylor
IAMSLIC President 2013-2014
University of British Columbia
Woodward Library
Vancouver, Canada

Good morning everyone. I expected to be staring at a sea of unfamiliar faces but after the game at last night's reception, I feel like I know more about some of you than I should! Thank you to the organizers for creating such a warm and inclusive welcome for us.

As President of IAMSLIC, I would like to welcome you to the conference. It is a special one because we will celebrate our 40th anniversary, and the Pacific Islands Regional Group will hold its 2nd meeting. I think most of us can remember our first IAMSLIC conference or when we joined the organization. In my case, it was in 2000 when IAMSLIC met in Victoria, British Columbia on the west coast of Canada, only an hour and a half by ferry from my home. I was a new librarian, and my predecessor said I should go! I may not recall the presentations but I still remember the people I met, many of whom became mentors and friends.

Because of my introduction into IAMSLIC, I see the value in meeting in different regions around the world and supporting our members to attend. I would like to echo Mary-Clare and acknowledge the organizations that sponsored our members: Secretariat of the Pacific Community (SPC), International Oceanographic Data and Information Exchange (IODE), Papua New Guinea National Fisheries Authority and ASFA, and to recognize our other sponsors who assisted with offsetting meeting costs: SPC, North Pacific Marine Science Organization (PICES), Inter-Research, ProQuest and Annual Reviews. Their support has been invaluable.

Finally I would like to thank Mary-Clare and Guillermina and their teams in planning such a fabulous event for us. Whether it's your first meeting or your 34th, I'm positive it will be a fruitful experience and one you will remember.

Guest Speaker

THE CHALLENGES OF FISHERIES INFORMATION DISSEMINATION IN THE PACIFIC

Franck A. Magron
SPC- Secretariat of the Pacific Community
Nouméa, N.C

For the last 65 years, the Secretariat of the Pacific Community (SPC) has provided technical support on fisheries and aquaculture to its member countries (currently 22 Pacific Islands Countries and Territories), producing and disseminating numerous documents such as conference papers, technical reports, bulletins, manuals, posters, leaflets and videos, mostly in English and French but also in vernacular languages. While physical copies were distributed to fisheries departments along the years, they only reached an limited audience in the Pacific and most fisheries and SPC junior or new staff wouldn't be aware of the existence of legacy - but still relevant - documents or would be unable to access them. The digitization of the legacy paper documents conducted several years ago and the constant addition of electronic documents has allowed the creation of a digital library available from the SPC website and distributed on DVD. Yet we observed that the audience of the website was mostly outside the Pacific or the academic sector, and that the DVD edition, though praised by consultants, was actually poorly distributed within fisheries departments and hardly used. Computer servers recently installed for survey data entry make possible the opportunistic use of existing infrastructure for content distribution on the local network through an intranet web server and even allows the dissemination of videos and large print-quality documents. We show that the system can be extended to allow non-SPC documents to be posted and disseminated by fisheries officers themselves, with the extra challenges of copyright and fair use.

Session 1: Challenges: Pacific Library Cases
Moderator: Verenaisi Bavadra

SPC LIBRARY AND ITS FAME DIGITAL LIBRARY

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Abstract:
The Secretariat of the Pacific Community (SPC) library system is a private corporate library that exists to enhance and service SPC's professional and technical staff, its projects and programs, and to provide information resources, including research, current awareness, acquisitions and information management to the SPC. The Library also seeks to promote and enhance information access and delivery to our member PICTs (Pacific Islands Countries and Territories). The staff consists of the Librarian and five library assistants. The current collection has regional and international publications in French, English, and to a limited extent some Pacific languages. Of the approximate 70,000 total holdings, one quarter is on marine science and fisheries, making it the largest subject area collection in the library, and of that, 300 items are FADs (Fish Aggregations Devices) related. SPC Library provides important services to assist the SPC staff in their work, including document delivery, bibliographical research, Interlibrary loans, book orders, and access to electronic journals. The SPC Library has been a member of the IAMSLIC network since 2006. The IAMSLIC Z39.50 is an invaluable resource for providing research support to SPC fisheries staff. The most collaborative work between the Library and Fisheries sections is the Fisheries Digital Library. The library catalogs all the meeting papers and reports related to fisheries, and these are then scanned, OCR'd, and made accessible using Greenstone. DVD versions were distributed throughout the PICTs, and it is also available online via http://www.spc.int/DigitalLibrary/FAME.

Keywords: Secretariat of the Pacific Community, Pacific Islands Countries and Territories, IAMSLIC, libraries, fisheries.

Session 1: Challenges: Pacific Library Cases
Moderator: Verenaisi Bavadra

MINISTRY OF FISHERIES AND MARINE RESOURCES LIBRARY: ITS DEVELOPMENT, IMPORTANCE, POTENTIAL, STRENGTHS & WEAKNESSES AND CHALLENGES

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Ministry of Fisheries and Marine Resources
Solomon Islands

Abstract:
The principle goals and objectives for the establishment of the Ministry of Fisheries and Marine Resources (MFMR) Library of the Solomon Islands are to collect organize, disseminate and manage published fisheries and fisheries related information in accordance with standard library practices. The library's development is designed to facilitate sound decision-making; its strengths and weaknesses determine the achievement of its goals and objectives and simultaneously map its ongoing and future work programs. Its purpose is to advance recognition of the importance of information as power to resolve and harmonize conflicts of interests, and its task is to collect, organize and disseminate information in a timely manner, aiming at achieving maximum benefits through proper development, management, and sustainable harvesting of fisheries and marine resources.

Keywords: Fisheries, fishery resources, Solomon Islands, Pacific, libraries.

Country Profile

The Solomon Islands are located in the Western Pacific Ocean between 05º South and 12º South and 155 º East and 170 º East. The southern and eastern Solomon Islands were progressively annexed and placed under the British protection in the 1890s, and Santa Isabel and the other islands to the north were ceded by Germany in 1900.

The Solomon Islands, formerly known as the British Solomon Islands Protectorate, gained full self-government on 2nd January 1976 and two year later achieved political independence on 7th July 1978. The land area of the Solomon Islands is approximately 29,785 sq km and it has an estimated population of 533,672 in 2005, according to the *Household Income and Expenditure Survey 2005/6 National Report* produced by the Ministry of Commerce and Trade, and its annual growth rate is 4.4%. Its Exclusive Economic Zone is approximately 325,400 square nautical miles (Kawaley, 2006).

Introduction

Ministry of Fisheries and Marine Resources

The institutionalization of the Ministry of Fisheries and Marine Resources (MFMR) as a Ministry became a reality during the Sogavare regime that ruled the country from 2006–2007. Prior to gaining Ministerial status, since its inception in the early 1970's as an important government entity the Fisheries Department has been administered under the auspices of the Ministry of Natural Resources, along with

the Department of Geology, Mines and Energy, and the Department of Forest, Environment and Conservation.

The Ministry of Fisheries and Marine Resources previously was also an integral component of the Ministry of Agriculture and Fisheries and then became a Department of the Ministry of Natural Resources until it became a Ministry of its own in 2006. It is important to note this development because of its significant impact on the library currently.

The MFMR's Mission Statement is:
The Ministry of Fisheries and Marine Resources (MFMR) leads the challenge to sustainably manage the nation's offshore and inshore fisheries, is active in promoting Community Based Resource Management, and aims to contribute pro-actively in the sustainable management of the Pacific Island region's offshore resources.
The MFMR strives to provide an effective and efficient service to all stakeholders, promote government inter-agency cooperation and act as the focal point for national capacity building, research and development within the sector

Figure 1. MFMR Corporate Plan 2014-2018.

4.2. MFMR Value and Philosophy

The MFMR's philosophy consolidates its values, relationships with stakeholders, policies, culture, and management style. The MFMR values are articulated through the Solomon Islands Public Service Code of Conduct, which contains the five key ethical principles of:

- Respect for the law and government.
- Respect for people.
- Integrity.
- Diligence.
- Economy and efficiency.

4.3. Goals and Strategic Objectives

The sectoral goals, and the objectives to achieve these goals, are articulated below and are broken down into four main focal areas for the corporate plan:

1. Fisheries resources and ecosystem management.
2. Private sector development and investment.
3. Fisheries compliance (the operational arm of fisheries management).
4. Governance and institutional development.

Goal 1: Sustainable fisheries resource management and promotion of livelihood opportunities through the conservation and management of oceanic and coastal ecosystems.
Goal 2: Promotion of private sector development, investment and secure market access to achieve higher economic returns and social benefits from the use of marine resources.
Goal 3: The effective management of national and shared fish stocks through a strengthening of fisheries compliance and enforcement.
Goal 4: Improved fisheries governance supported by a strengthening of the institutional framework of the sector.

MFMR Library Objectives

The primary purpose for the development of the MFMR Library is to support the Ministry of Fisheries and Marine Resources' policy objectives, as specified in successive MFMR Corporate Plans, and to be incorporated as an integral unit of the statistics division vested with:

(a) A vision, recognizing the importance of centralization of information as an asset, power, solution to harmonizing conflict of interest and opinion at the national, provincial and rural levels; to alleviate poverty and improve levels of literacy; and to improve health and living standards.

(b) A mission to collect, organize, manage, disseminate information on fisheries and marine resources to its targeted audiences and develop a systematic reader/user services, and to maintain an online library collection.

(c) An aim to achieve maximum social, economic and political benefits through the proper development, management and sustainable harvesting of all fisheries resources, by collecting, processing, organizing and disseminating of information to facilitate decision-making in support of the MFMR Corporate Plan 2014–2018.

Core Activities

Task No.	Task Description	Duration
	Formulate MFMR Library Mission Statement and submit to the Executive Management for consideration & comments and editing,	Formulation stage
1.	Formulate a Library Policy Statement and submit to the Executive Management for their deliberation/and approval for implementation,	Formulation stage
2.	Sorting out, scanning, online cataloguing and spine labeling of all library materials including serial publications and fisheries related articles,	Ongoing
3.	Write-up reports on meetings and training attended for office records and for staff information updates,	One-off Rept.
4.	General In-House up-keeping, maintenance and management of the Library operation,	Ongoing
5.	Provide information to library users and respond to online requests for information,	Ongoing
6.	Other tasks as and when called for by my immediate supervisor – Chief Fisheries Officer, ICT & Statistics Division	Ongoing

Figure 2. 2014 Library Work Program.

Achievements Between July 2011 – July 2014

- The library is now adequately housed in its own allocated space.
- Installation of a DocuScann C4250 (currently needs to be reconnected).
- Significant increase of library users from secondary schools within the Honiara national capital city and from the Provinces.
- Marginal increase in the number of MFMR Officers using the library.
- Continued access to the Internet, email and other ICT facilities.
- Continued building of the E-Collection from Internet searches.

Challenges Between July 2011–July 2014

The Library was again been relocated in a 14' x 10' space in late 2013 and this was completed in early 2014. The relocation process has resulted in the loss and misplacement of some of the library materials.

Though the current library space is reduced in size by around 30%, the number of users continues to rise significantly.

The difficulties in getting clearance to collect survey reports, research papers and workshop presentations from officers of the Ministry also continue to persist. Therefore it is essential to formulate a process that would ensure that these reports are cleared for public citation.

2013 - 2014 Regional and International Meetings (FFC/PNA/PTF)
The Ministry of Fisheries and Marine Resources in 2013 and 2014 hosted two regional agency meetings – the meeting of the Forum Fisheries Committee, which is the governing body of the South Pacific Forum Fisheries Agency, and Parties to the Nauru Agreement, to which Solomon Islands is also a party. It also hosted an international meeting known as the Pacific Tuna Forum. Hosting such meetings presents its own challenges in preparation and the personnel needed to efficiently and successfully coordinate and administer the meetings. The library was also involved in helping in the preparations and day-to-day agendas of these meetings.

Library Plans For the Next Two Years (2014 – 2016)

- Continue with ongoing activities in the library work program.
- Continue building, processing, organizing and disseminating information from the E-Collection downloaded from the Internet.

MFMR ICT system relocated to ICTU (Information Communication Technology Unit) in July 2014 and will be become part of the Solomon Islands Government initiative to centralize all Ministries ICT system. This means that Fisheries Library system (KOHA) will be accessed via network at its new location. Since migrating the MFMR Server to its new location the Koha library software has been inaccessible.

Library Management and Classification System In Use
The MFMR Library is an integral unit of the Statistics Division and therefore is an undertaking of the Head of the Statistics in planning, management, budgeting, delegation of task and supervision. Thus the library does not have its own budget; however, its budgetary needs are provided for under the division's approved allocation of about SBD250,000 - 00 for 2014.

The Senior Fisheries Officer – Library and Information by designation, is the Officer charged with the development of the library and with ensuring that its operation satisfactorily meets the library objectives as set out above.

The MFMR Library is currently using the Koha Library software for its online catalog. The classification system in use is the DDC Abridged 14th edition. The Sears list of subject headings and the Aquatic Sciences and Fisheries Thesaurus subject listing are also used interchangeably. In regards to the Greenstone Library software, since it crashed in 2009, it has been out of order. However, the Library is considering its advantages over Koha as far as collection automation digitization is concerned.

Website Development
The arrangements for the development of a MFMR website are currently underway and are being undertaken by the Makem Strong, Solomon Islands Fisheries (MSSIF) project and funded by New Zealand Aid. Hopefully this undertaking will be completed before the end of 2014 or early in 2015. The development of the website would also allow online access to the MFMR library collection.

Potential
The need for organization and dissemination of information in a timely manner is essential and of paramount importance in making sound decisions that would have serious consequences on the environment and human lives. Developing a library with intelligible library policies is necessary in achieving the Ministry and Library's aims and objectives. The MFMR Library is no exception. The Library is also in the best position to provide highly/regularly demanded information on fisheries development, legislation and other fisheries related issues.

There is also the potential need to develop at least small but organized collections of published fisheries information at Provincial Fisheries Centres to provide information to the rural communities.

Strengths
The MFMR Library is the only library in the country that houses a satisfactorily comprehensive collection on national and international fisheries development and fisheries-related published and unpublished materials. Though the MFMR Library is currently housed in a relatively small space, it has access to thousands if not millions of materials on fisheries developments and fisheries related subjects through PIMRIS and SPC databases and the Internet.

Another advantage is that the MFMR Library is manned by a certified Librarian who oversees providing library services that satisfy the needs of the MFMR and its targeted audience.

The MFMR Library is also located at a site easily accessible from anywhere within the Honiara township limits and within a few minutes' walk from the newly established Solomon Islands National University.

Weaknesses
The possibility of a financial shortfall is an ever-present weakness in any activity and the MFMR Library operation is no exception. For instance, the library does not have a standalone budget and thus does not have much say in the budgetary processes.

Unlike modern traditional library set-ups, the library does not provide ICT hardware/software facilities for research purposes since most of its collection is in electronic formats. This is also a reflection of financial weaknesses.

The absence of the library's involvement in planning is another weakness that contributes to the current limited research/study space.

Opportunities
Although there are disadvantages as noted above, there talso are many opportunities for the MFMR Library to improvise on its status to archive the Ministry's and the Library's objectives. An example is the production of pamphlets for distribution to institutions as a public awareness pro-active measure.

There is also an opportunity to provide users access to an ICT facility for research and to databases in CD-ROM formats and online e-library collections.

Development of Information Centres/mini-libraries at the nine Provincial Fisheries Centres is also another great opportunity for the MFMR Library to provide library services to 80% of the nation's population. The extension of library services to the Provinces would also create job opportunities and it would contribute enormously and significantly to the proper development, management and

dissemination of information at the provincial level. This would also require the training of personnel on at least basic skills in library work.

Threats

The MFMR office building in which the Library is accommodated is located at a site a few meters from the shoreline and is therefore vulnerable to natural disasters such as cyclones, tidal waves and tsunamis.

The continuous updating/upgrading of ICT hardware/software versions also comes with needs that may present technical difficulties. The development of the Government's centralized ICT Unit has already taken its toll on MFMR current day-to-day functions.

Building defects are also continuous threats, causing plumbing leakages, electrical short-circuits and leaking roofs that threaten the collection and safety.

Challenges

The challenges presented here affect:

a) Realizing the library's potentials, as detailed above, and ascertaining that they are practically and effectively implemented.

b) The Library's strengths, presenting a challenge to consider its stakeholders in the collection's intellectual content to determine future direction and developments.

c) The Library's weaknesses. The challenge is to ensure that library's financial needs are guaranteed and that the library is involved in future library development planning.

d) Opportunities, to ensure that these are carried out to their maximum effect.

e) Threats. It is necessary to at least formulate a disaster management plan and to give serious consideration to contain other threats as well.

Recommendations

The only way an enterprise can move forward is obviously to develop to its maximum, identify latent potentials, improve on its strengths by strengthening its weaknesses, fully utilize and develop known opportunities, and seriously address natural and man-made threats. If these are done the MFMR Library would be able to satisfactorily help meet the Ministry's and the Library's vision, mission and aims.

Conclusion

In conclusion it is the author's conviction that knowing potentials, strengths and weaknesses, opportunities and threats are the basis to a way forward in development, and the MFMR Library is no exception.

Acknowledgements

The author would like to register here and express his sincere gratitude in acknowledgement for the assistance rendered by officers of the Ministry in the writing of this paper especially, those who have one way or the other contributed to the MFMR Corporate plan that is also partially cited in this paper.

Disclaimer

The author of this paper is impartially and fully responsible for views expressed in this paper and thus the paper does not necessarily reflect the views of the MFMR.

References

Kawaley, Ian (1999). Implications of Exclusive Economic Zone Management and Regional Cooperation Between South Pacific Small Midocean Island Commonwealth Territories. *Ocean Development and International Law* 30 4): 333-377.

Solomon Islands Statistics Office. (2006). *Household Income and Expenditure Survey 2005/6 National Report.* http://www.spc.int/prism/solomons/index.php/sinso-documents?view=download&fileId=12.

Session 1: Challenges: Pacific Library Cases
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RIDING THE WAVE: HOW MUCH A LIBRARY CAN CHANGE IN THREE YEARS

Hannah Russell
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Abstract:
In February 2011, the National Institute of Water & Atmospheric Research (NIWA) had three libraries and seven librarians spread across four sites and two islands, serving 700 plus science and support staff at fifteen sites around New Zealand's North and South Islands. Flash forward to February 2014 and NIWA has three librarians (only one of whom was around back in 2011) and one centralized library service, serving a little over 600 staff, still spread across two islands. In that time we have cut some services and decreased the size of our physical collection, but also made some technological advances, including changing our library management system to Koha, moving more and more of our journals and books online, and launching a discovery service. All of these technological changes were made with the idea of making access easier for our patrons, no matter how far they might be from the physical library collection and library staff.

Keywords:
Libraries, organizational change, integrated library systems (computer systems), classification - Universal Decimal, collection management (libraries).

NIWA

One of seven Crown Research Institutes, NIWA (the National Institute of Water & Atmospheric Research) was established in 1992, and conducts commercial and non-commercial research in the environmental sciences. The Crown Research Institutes (CRIs) are corporatized Crown entities charged with conducting scientific research for New Zealand. Foundation staff of NIWA came mainly from the former Oceanographic Institute of the Department of Scientific and Industrial Research, the New Zealand Meteorological Service and the Fisheries Research Division of the former Ministry of Agriculture and Fisheries. NIWA's work focuses on atmospheric, marine, and freshwater research - extending from the deep ocean to the upper atmosphere - in New Zealand, the Pacific, the Southern Ocean, and Antarctica.

The Libraries

At the beginning of 2011 NIWA had three main libraries, in Wellington and Hamilton in the North Island and Christchurch in the South Island, and smaller collections at five other sites around the country. We

had seven staff in the team - a Library and Information Services Manager, a Records Manager, a Wellington Library Manager, and four Information Specialists based in Wellington, Hamilton, Auckland and Christchurch. We had a SirsiDynix Symphony Library Management System, which was in need of an upgrade that we had been putting off. The library team had recently been moved from within Information Technology to Communications & Marketing.

2011 Review

In February 2011, partly in response to the global financial crisis, a review of a large number of teams at NIWA was announced. Both science and support staff were reviewed and there was a focus on centralization, particularly for support teams like finance and the library.

The proposed changes for the library were fairly wide ranging. The six library staff were to be reduced by 50% and the Records Manager was to shift back to IT. Staff and parts of the collection were to be centralized in Wellington. What did remain of the collections at the other sites were to become "closed collections." Reference services like literature searching and alerting were no longer going to be provided by library staff.

There was a period of time for feedback both from library staff and library patrons, but by early April we were told that the proposed restructure was going ahead pretty much as envisaged, with all library positions to be disestablished, and two new permanent librarian positions and one contract library manager position to be established in Wellington.

Transition

The two Wellington based staff successfully applied for the newly established positions of Librarian (Services) and Librarian (Systems), which were only advertised internally. Our Information and Services Manager didn't apply for the new Library Manager contract position, which was advertised externally. Library staff made redundant finished up in June and July and our Records Manager resigned and wasn't replaced. Library liaison duties were assigned to administration staff at the other sites with library collections.

The allocated administration staff took some time adjusting to their new library duties. They were already in busy roles, and needed time to learn processes. They had little or no library experience, and in the early days things like the classification schemes were very foreign to them. All new journals and books were now sent to library staff in Wellington for processing, and the library liaisons retrieved books and journals and scanned items as we requested them.

As mentioned earlier, the restructure proposal called for services like literature searching and alerting to be dropped by library staff. These changes did go ahead as proposed. Library staff worked with patrons early on to help them set up alerts. In regard to database searching, we now provide training, advice and support with EndNote, but the actual searching is left to the patrons themselves.

More Change

Our new Library Manager started on contract in October 2011. She had a university and public library background, and brought some different ideas with her. Once she was on board we started thinking about things like merging the separate collections, rearranging our duties, the library management system, and other technologies that we might want to implement. We started weeding the collections, but the first really major change was switching our integrated library system. The systems we seriously

considered were our current system Symphony, which was in need of a not inexpensive upgrade, Koha, and Liberty, which was the system that was most in use in other Crown Research Institute libraries.

Koha

After research and discussion, we selected Koha, hosted by Catalyst which is based in Wellington. We were anxious for a hosted system to be less of a burden on our IT staff, and they were keen for that too. We liked the idea of having our support in New Zealand at a time when most vendors were moving their support out of New Zealand to Australia or Asia. We really liked the look of the OPAC, which we felt was a big improvement on our current one. We were pleased that it was open source software with a very active community of users, and another big plus was that after the migration it would to cost less than our current system. We went live with Koha in December 2012. We also used the move to Koha as an opportune time to move to barcoding.

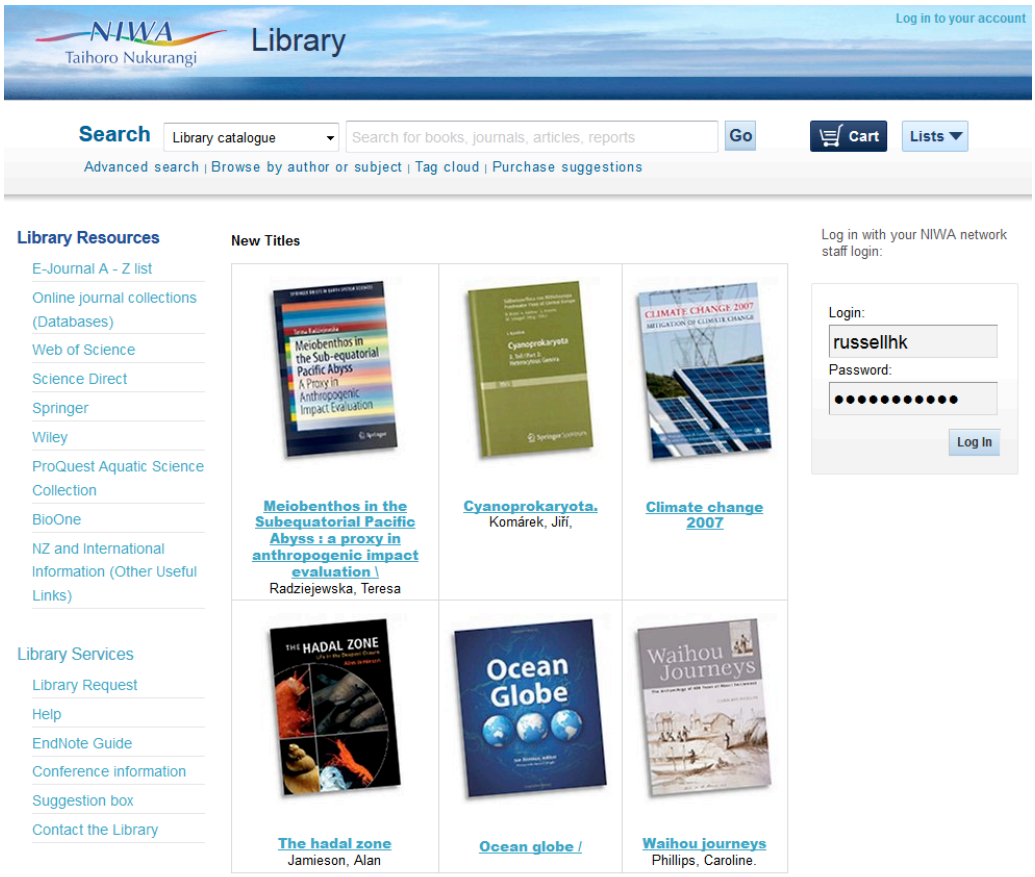

Figure 1. NIWA Library Homepage.

Although for the most part we are really happy with Koha, there are a couple of issues. We think the relevancy ranking leaves a bit to be desired, but the community is aware of and working on this. The Serials Management function is a bit clunky, but our next upgrade should provide some improvements. And although we are not using it, some people are not pleased with the Acquisitions Module. However, every system has its strengths and its weaknesses, and for our purposes Koha has a lot of strengths.

Another difference f with Koha is the way that we are charged. Previously we had been paying one lump sum once a year with everything covered. Now any changes that we might need are considered "development" and are charged accordingly.

Other Changes

After our move to Koha, we started to think about the classification of our books. One of the stumbling blocks for merging our collections was the different classification schemes in place. The Wellington and Christchurch collections were mostly in UDC, with small patches of older items in Dewey, but the Hamilton collection was in Library of Congress. We first decided to go with Dewey since as all our new records - which we could now import through a Z39.50 connection into Koha - came with Dewey classification. A few months later we realized just what a huge job it would be to change everything we already had in UDC and LC over to Dewey, and we decided to revert back to UDC.

Our library manager spent a lot of time her first year with us concentrating on our journal subscriptions. We already had large e-journal packages through Elsevier, Springer and Wiley, and she decided to move as many other titles as possible from hard copy to electronic in order to free up space in the physical collection. She also consolidated as many of our subscriptions as possible with Ebsco. She reviewed a lot of the titles we received on exchange from other institutions and decided a number were no longer needed, or could be displayed briefly and then discarded. She also had a hard look at the usage statistics for our electronic journals, and cancelled some titles.

Another change was the reassignment of some duties between us. Document supply, which had previously been done solely by the Librarian (Services), was now done by everyone on a rostered basis, as were book acquisitions, which were previously done by the library manager. Once the library manager had made the major changes for our journal subscriptions, the Librarian (Services) picked up responsibility for the management of our Ebsco subscriptions, and the Librarian (Systems) took over responsibility for our remaining direct subscriptions. The Librarian (Services) also took over responsibility for user education, and consequently later had a title change from Librarian (Services) to Librarian (Liaison).

In March 2013, our Librarian (Systems) announced her retirement. She was replaced in May 2013 in the re-named position of Librarian (Technologies). Then later in 2013 our library manager announced her resignation, as she and her family were leaving New Zealand. Our new library manager started in early November 2013, and the position was made permanent rather than contract.

During this time of personnel changes we also had to deal with collection merging, as the Hamilton and Christchurch sites were making plans for re-purposing their library spaces. The original restructure proposal had intended for "closed collections" to remain in Hamilton and Christchurch, but in reality that proved difficult to implement. In order to make room in Wellington, a lot of weeding was necessary, and this is still ongoing. With journals we concentrated on removing print where we were confident of electronic access and eliminating duplication between the collections. We weeded a lot of duplicate books and items that we considered out of date or off topic for the work that NIWA currently undertakes. We had help from science staff in identifying these. We also weeded a fair number of little or never used foreign language items.

In September 2013 the first of our Christchurch journals arrived in Wellington. These needed some weeding, and were then merged into the collection with student help. Hamilton journals and books were packed up in late 2013, and were unpacked in Wellington early this year, again with student help.

The journals were merged straight into the collection but the books couldn't be as they were still classified in LC. They are sitting as a separate run at present and we hope to be able to employ a contractor sometime in the near future to get them reclassified in UDC. More Christchurch journals and some of the Christchurch books were packed up in August 2014, and were merged into the Wellington collection in September and October 2014, once more with student help. More weeding and packing was done in Christchurch in October 2014. More weeding still needs to be done in Wellington as we have a whole run of journals in what we refer to as our "Stack" that haven't yet been assessed. And sometime in the future we will start looking at the collections at some of our smaller sites.

Ebsco Discovery Service

2014 also saw us go live with a discovery system, the Ebsco Discovery Service (EDS). We looked at a few other discovery products, but since most of our journal subscriptions were already with Ebsco and we had their A-Z e-journals product as well, and because the price compared favourably to others, it seemed sensible to go with EDS. We worked closely with a developer at Ebsco and used an Application Programming Interface (API) in our existing Koha system to minimize changes to the library patron experience. We started with a soft launch where patrons had to choose to search using the EDS, but switched it over to be the default search option fairly quickly after there were no complaints. It has proven fairly seamless, with most people not even noticing a difference even though their searches will now often return a larger set of results. The OPAC home page with the discovery layer over top looks almost identical to our Koha version. The only real difference is the slightly expanded and adjusted list of fields available for searching. Also pleasing is the EDS's relevancy ranking. The EDS advanced search was launched in a fairly recent update to the plugin software, and there are a few differences between it and our Koha advanced search so there are still a few bugs. For example, the cart functionality isn't working for Discovery records. But all in all we are really pleased with it.

Conclusion

So there it is – a lot of changes in three short years. A restructure leading to staff cutbacks, two new library managers and one new librarian, changes in provided services, reduced space leading to a lot of weeding, the merging of remaining collections, a change in integrated library systems and a move to barcoding, changes in areas of responsibilities, and the launch of a discovery service. At times it has definitely felt as though we were on a ship at sea, riding a wave and holding on for dear life!

References

Breeding, M. (2014). *Library resource discovery products: Context, library perspectives, and vendor positions*. Chicago, IL : ALA TechSource.

Stoffle, C. J., & Cuillier, C. (2010). From surviving to thriving. *Journal of Library Administration*, 51(1), 130-155.

Session 2: Pacific Networks Collaboration
Moderator: Amy Butros

TOWARDS A SHARED PLATFORM OF SCIENTIFIC PUBLICATIONS IN NEW CALEDONIA: THE EXAMPLE OF "UNIVERS NC," AN OAI-PMH COMPLIANT COMMON OPEN ARCHIVE

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Abstract:
The authors will present the results of a cooperative project of several research institutions installed or operating in New Caledonia. The aim of the project is to gather and harvest bibliographic data and full texts of all the documents the cooperating institutions produce in order to provide a highly usable information service for researchers in the Pacific region and all over the world. The development of the actual online open platform "Univers NC" from its early stages to its current level of services will be presented as an example of what libraries can do with today's information technologies and tools.

Keywords: New Caledonia, Pacific Islands, information technologies, libraries.

Session 2: Pacific Networks Collaboration
Moderator: Amy Butros

THE IMPORTANCE OF LIBRARY PARTNERSHIPS AND COLLABORATION: THE PIMRIS EXPERIENCE

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Abstract:
With a shared vision of improving access to and preservation of marine and fisheries information, the Pacific Islands Marine Resources Information System (PIMRIS) was established following the Williams and Fa'asili (1987) review, and an agreement between Pacific Island national and regional agencies, including the University of the South Pacific, was signed. Since then, PIMRIS has managed and facilitated several externally funded projects and this paper discusses some challenges and achievements as well as lessons learned from this partnership over the years.

Keywords: Pacific Islands Marine Resources Information System (PIMRIS), , University of the South Pacific, libraries.

References:

Fa'asili U., *Williams* E.W. *(1987).* Pacific Islands Marine Resources Information System (*PIMRIS*) [WP 16]: Part I, Marine resources information needs: Report and PIMRIS Budget proposal.

Session 2: Pacific Networks Collaboration
Moderator: Amy Butros

THE PACIFIC MARINE & ENVIRONMENTAL LIBRARIES TWINNING PROJECT: FROM THE PERSPECTIE OF PACIFIC LIBRARIES

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Abstract:
Libraries in the Pacific face many challenges: vast geography, capacity building, attaining and retaining skilled librarians, funding and support are just a few. The Pacific Marine & Environmental Libraries Twinning Project came about after Pacific Islands Marine Resources Information Systems (PIMRIS) and the Group of Experts–Marine Information Management – International Data and Information Exchange (IODE- GEMIM, a UNESCO Program) meetings, in which these challenges were identified by all participants in the Pacific. Those involved at executive levels in the meetings have been trying to address these challenges as best as they can in support of their Pacific counterparts by having early consultations and involvement with PIMRIS. The Twinning Project had been tried by the Law sector for a decade and so it seemed to be a viable idea for the Marine sector as well, and to be a substantial start to respond to this situation. This paper looks at the implementation of this pilot for the Twinning Project that started in 2012 with funding from AusAID, involving three Australian libraries and three Pacific Island libraries.

Keywords: Libraries, capacity building, twinning projects,Oceania, AusAID, Pacific libraries, Australian Libraries, IODE GE-MIM, PIMRIS.

Being able to provide information to clients remains one of the most important aims of any library because of the value to its stakeholders and decision makers. This is even more significant in the Pacific's marine and environmental sector, which needs access to valuable information for decision and policy makers. For that to happen, there is an implicit need for skilled librarians to provide this, and most if not all libraries face challenges in doing this.

In the Pacific, it is even more difficult as all the libraries are spread over a large geographical area and separated widely from each other, so that it is difficult to exchange or share information physically. For the developed countries this may not be a challenge because technology developments allow for the Internet to overcome this; however, in the Pacific many countries are still developing and face challenges of technology, infrastructure or framework. Sometimes the librarians are not professionally trained in library science but are actually fisheries/environmental officers doing library work because there is no funding available to provide for a dedicated librarian or information management professional; this means they end up operating in several different capacities. Where it is possible to get

professional librarians, it may then become difficult to retain them due to other attractive opportunities as well as lack of support and funding for libraries in general, so there is a high turnover in these positions. In the instances where it has been possible to retain these professionals, because of isolation over large geographical areas they are deprived of continuing professional development. In light of these challenges, which are continuously highlighted by the Pacific partners at meetings at both regional and international levels, or at trainings and conferences conducted by Pacific Islands Marine Resources Information Systems (PIMRIS), Group of Experts–Marine Information Management – International Data and Information Exchange (IODE-GEMIM, a UNESCO Program), there were discussions of how to best help with this. In the past the law libraries tried twinning projects and were successful over the years. A twinning project with the marine and environment libraries seemed to be a viable possibility. Therefore, in consultation with PIMRIS and the IODE GE-MIM, it was decided that the pilot for the Pacific Marine & Environmental Libraries Twinning project would be given a trial. Susie Davis from the Great Barrier Reef Marine Park Authority (GBRPMA) libraries along with Chris Nelson and Joanna Ruxton compiled the proposal for funding from AusAID. After it was initially declined in 2010, the proposal was approved in 2011 [Davies].

The objective of the twinning project was to specifically strengthen the capacity of selected Pacific libraries to provide marine/environmental information and to improve environmental governance to the sector by establishing long term twinning relationships with similar libraries in Australia. The three libraries from Australia included the, then helmed by Suzie Davis, which became the lead library; James Cook University represented by Joanna Ruxton; and Geoscience Australia N.H. (Doc) Fisher Geoscience Library, represented by Chris Nelson, who later took the lead after the GBRMPA library experienced capacity loss. The three libraries from the Pacific included the Kiribati Ministry of Fisheries & Marine Resource Development Library represented by Mwaba Bakarere, who also works as a fisheries officer; Samoa Ministry of Agriculture & Fisheries, Fisheries Division Library with represented by [Ina] Tuluiga Taito James, who also works as a fisheries officer; and the Secretariat of the Pacific Community, SPC Library, based in the Applied Geoscience and Technology Division in Fiji represented by Dorene Naidu. SPC was the lead organization in the Pacific.

The twinning project was completed in three phases. The first of these was a three week long work internship with GBRMPA, James Cook University and Geoscience Australia (Doc) Fisher library; the second was the return progress visits by the Australian counterparts to the Pacific Libraries; and the third was a workshop hosted by the Library at Secretariat of the Pacific Regional Environment Programme (SPREP). Apart from this the ongoing mentoring of the Pacific libraries would continue with advice, Duplicates items Exchange Program with free materials; and any other special services that their Australian counterparts would be able to provide.

The various activities during the internship based in Australia in the first phase of the project included development of Pacific library collections (paper-based & digital) and sound library management practices, in conjunction with the ODIN-PIMRIS network. This was achieved by activities that included basic library skills such as organizing collections, both physical and digital; introduction to digital wikis for managing tasks; introduction to digitization and archiving for large format items, e.g. maps and charts; and disaster planning. Participants were provided with exposure to and training in advanced information management skills, with an introduction to electronic document and records management (EDRMS), repositories (e.g. E-Atlas) where the process of data gathering from scientists and populating the repositories was demonstrated; introduction to LibGuides; and introduction to environment controlled archives and Web 2.0. Also included in the activities was the development of information alerting services to enhance dissemination of information to clients such as decision-makers and policy-

makers. This was achieved by providing training for doing interlibrary loans; exposure and networking with various libraries including visits to the Australian National University Pacific Institute, National Library of Australia, and Townsville Health Library; and observing first-hand the maritime boundaries workshop that was being coordinated by the Applied Geoscience and Technology Division of SPC at the University of Sydney. These provided opportunities for the Pacific participants to be exposed to the importance of the information management services they provide for their countries.

In the second phase of the project Joanna Ruxton (GBRMPA library) and Joel MacKeen (CSIRO Library) visited Kiribati and Samoa as part of the return progress visits by the Australian participants to the Pacific libraries. The Kiribati Ministry of Fisheries & Marine Resource Development Library with Mwaba Bakarere involved hands on training in assessing and identifying items for inclusion in the collection and organizing the materials on the shelves with the transformed library organized and ready for use. Mwaba had about 1000 reports digitized using the Greenstone Digital library. In the Samoa Ministry of Agriculture & Fisheries, Fisheries Division Library [Ina] Tuluiga Taito James completely rearranged the library collection with what she had learned during her internship in Australia. She also learned to identify and select unique items for inclusion into the PIMRIS. Chris Nelson from the Geoscience Australia Doc Fisher library visited the AGTD SPC Library to see that it was involved in one of the internal projects that were compiling the SOPAC Compendium. The Compendium is a digital collection of the entire body of knowledge of SOPAC's work in the Pacific Region from the time of its inception in 1972 to 2010. The exposure during the internship at Geoscience Australia Doc Fisher library contributed towards the implementation of a photo depository and large format digitization as well as building Archives for the Compendium project. Apart from this, collection development assistance was provided with interlibrary loans, map copying from National Library, and a CD of digitized legacy reports of Geoscience Australia research in the region being provided to the AGTD library.

Training and assistance were also provided for the important task of moving the SOPAC Petroleum Data Bank from Canberra to be included in the Compendium project based in AGTD. This was facilitated by Peter Butler, another Geoscience Australia staff member.

The workshop in SPREP was the third phase of the project and comprised several components, including training for the Greenstone Digital library software to manage small library collections; setting up current awareness services for Information gathering and how to use inexpensive tools for this activity; setting up alerts on various sites for Google Scholar, Science Direct, etc.; accessing portals; establishing Google profiles; collection development principles and practice; the values of dissemination/sharing/distribution of new information using existing resources like bulletin boards, emails, newsletters, blogs etc.; how to get resources for your clients using document delivery through formal networks such as IAMSLIC (IAMSLIC listserv or the Z39.50 catalog) and FAO (ASFA) and through informal networks such as professional networks, listservs, direct emails to colleagues, etc. There were also discussions on Open Access and a range of available relevant resources. The benefits of having an IAMSLIC membership were also discussed, including the range of resources were available as well as support, coaching and mentoring from other IAMSLIC members.

There were several challenges faced by the Pacific participants in the project. For some it was the first time they had travelled overseas out of the Pacific. Using the English language for communicating was difficult as it isn't a first language for all the participants, and there were feelings of being overwhelmed with culture shock; technologically challenged with the use of the Internet and other applications on Windows plus the introduction to Web 2.0; and processing and absorbing new information.

The project itself also faced some challenges when it was necessary to transfer the lead agency from GBRMPA to Geoscience Australia NH Doc Fisher Library after the GBRMPA library suffered capacity loss. Apart from this an extension to the project from December 2013 to March 2014 was requested upon the postponement of the PIMRIS meeting. In an ironic turn of events near the completion of this project, Australian Government libraries were being shut down due to policy changes by the Australian Government's aid program. This remains only as a pilot project since no further funding will be available for continuing the twinning project in the marine and environmental sector.

However, this pilot project was successful from the perspective of the Pacific participants, and overall the main objectives were achieved with results that included exchange of experiences and knowledge leading to capacity development. The establishment of long-term and structural working relationships led to effective twinning of libraries. Professional networking helped libraries in the Pacific with limited or no budgets and resources, assisting with collection development and document delivery to provide valuable research for clients. Training and improvements in capacity allowed for better provision of the information needs of clients, along with populating existing networks like PIMRIS and PIMRIS ODIN with grey literature specific to the Pacific countries, making this accessible digitally. The development of better communication and coordination took place with the use of tools such as email and the Internet. All of these accomplished what the twinning project set out to achieve for the information/library/fisheries officers, which was to provide the stakeholders and policy makers in the Pacific with quality information in the marine and environmental sector.

References:

Davis, S. (2010). *Activity concept form for the Pacific public sector linkages program 2010-2011*. Australian Transaction Reports and Analysis Centre, 2p.

Davis, S. (2014). *Training workshop on Marine Information Management, SPREP offices, Apia.* Marine and Environmental Libraries Twining Coordination, 11 p.

Naidu, D. (2011). *Feedback on the twinning session with Geoscience Australia for SPC SOPAC library*. SOPAC trip report 443.

Nelson, Chris.(2013). *Public sector linkages program- activity completion report.* 10 p.

Wikipedia (2013). Twining international building tool (wiki article), February 19, 2013. Available from: http://en.wikipedia.org/wiki/Twinning_institutional_building_tool. [Accessed December 9 2014.]

Notes: SOPAC, the South Pacific Applied Geosciences Commission, is now known as the Applied Geoscience and Technology Division (AGTD) of the Secretariat of the Pacific Community (SPC).

Session 2. Pacific Networks Collaboration
Moderator: Amy Butros

EFFORTS OF AQUATIC AND MARINE SCIENCE LIBRARIES AND INFORMATION CENTERS IN THE PHILIPPINES TOWARDS PROMOTING COLLABORATION IN THE AREAS OF NETWORKING, COORDINATION AND COOPERATION

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Abstract:
Non-profit organizations, private and government institutions often work together in a collaboration. Usually, collaboration strategies are described as networking, coordinating, or cooperating. Although the use of these terms is often confusing, this paper suggests definitions of these three strategies to help clarify the most appropriate use of each in particular settings. Collaboration is defined as organizing for joint action by individuals, organizations, and processes. It is a process through which parties that see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible (Gray, 1989). At present, most libraries are using different strategies. Some are doing networking in which low levels of communication and no common goals exist. In others organizational involvement rather than networking facilitates exchange of information and resources for mutual benefit to achieve a common purpose. Lastly, some are developing mutual understandings to help each other and potentially combine with other institutions to build collections through information sharing, delivery services, union catalogues, bibliographies, digital libraries, sharing of knowledge through consultancy and helping one another through fund sharing. They need written agreements to unify their shared goals and commitments and to lead to collaborative partnerships; coordination and cooperation are essential in collaborating. Since collaboration is usually encouraged because it delivers greater productivity, it can be a powerful alternative to conventional mechanisms for effecting change. The value of collaboration, therefore, is that it affords individuals the opportunity to move beyond the functional aspects of coordination, cooperation and networking. Through creating a new, shared knowledge and understanding, they can achieve more together than can a collection of individuals.

Keywords: Collaboration, libraries.

References:
Gray, B. 1989. *Collaborating: Finding Common Ground for Multiparty Problems.* San Francisco CA: Jossey-Bass Publishers.

Session 3: New Initiatives and New Technologies
Moderator: Hannah Russell

ISLANDS OF WORDS: INTEGRATING WRITING CENTERS INTO LIBRARIES

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Abstract:
At Texas A&M University at Galveston, the Writing Center is administered and operated by the Jack K. Williams Library. Coherent, cohesive and accessible writing for scientific disciplines is critical, not only for academic audiences but to make science better understood by the general public. Writing Centers at academic institutions are tasked with improving the quality of student writing across all disciplines using traditional writing theory and modern technology. The dilemma in these traditional versus modern partnerships is how to integrate library services and new technologies so they serve the institutional interests of high quality academic writing and how to assess the technology's effectiveness in learning outcomes. Using collaborative assessment methods including metrics from peer-to-peer counseling sessions, this paper will show the benefits of teaching information literacy workshops and implementing web-based management tutoring software, and will propose uses of new technologies to improve outreach to students and assist in measuring the effectiveness of the Writing Center at Texas A&M at Galveston.

Keywords: Writing centers, libraries, information literacy, peer-to-peer counseling assessment, academic institutions., Texas A&M University.

Introduction

The Texas A&M University System has developed a Quality Enhancement Plan (QEP) that emphasizes that Aggies Commit to Learning for a Lifetime (Office of the Provost, 2014). The QEP focuses on student learning outcomes and student success. Unique among writing center/library collaborations, the Jack K. Williams Library at Texas A&M University at Galveston (TAMUG) houses and administers the Writing Lab, which supports and furthers the goals of the QEP. Specifically the Writing Lab supports the QEP goals of:

- Deepened commitment through purposeful tasks.
- Extended and substantive interactions with faculty and peers.
- Frequent feedback to student performance.

The Writing Lab strives to develop students' writing competencies into professional level skill sets during their time at A&M University at Galveston. The primary goal of the Writing Lab is to meet the students

at their points of need and elevate the importance of writing as an academic service for students across all disciplines. Services often integrate with other academic resources aimed at enhancing students' academic competencies in order to improve students' level of professionalism and preparedness for their chosen career paths. The Writing Lab works to also integrate information and technology literacy skills with traditional writing rhetoric and composition as well as an increased emphasis on the use of technology for learning and teaching. To these ends, the Writing Lab is integrating new technologies to provide asynchronous counseling in order to approach and assist more students. The ultimate goal is to show evidence of student's writing improvement from assessments.

Integration

The model employed by TAMUG is rare since few writing centers are administered by libraries. A cursory exploration of writing center administrative and service structures finds that of major universities there were no other library administrative schemes. A quarter of writing centers had outposts in libraries, offering limited services and hours. Barbour et al. (2002), Elmborg and Hook (2005) and Norgaard (2004) show that there is potential to diversify and enhance support for writing, investigation, research and presentation by integrating writing centers and libraries. Housing that support in the same space can provide students with "one-stop shopping," enhance synergistic relationships and improve communication with students, between counselors and with administrative staff. Meyer. Forbes, Bowers (2010) report on a successful model of developing a consultation model for research integrated with a Writing Center located in the library.

Other models have been successful, including networking opportunities between libraries and writing centers, assignment of library liaisons to writing centers, integration of writing/bibliographic class sessions and shared presentations to outside groups. These activities and initiatives have all enhanced the student learning experience. The unique structure of the Texas A&M University at Galveston Writing Lab takes those opportunities, economies of scale and integrations to a higher order. Benefits of this arrangement include:

- Integration of research into the discovery, pre-writing process.
- Integration of multiliteracies, including technology, into the writing process.
- Counselor training is focused and concentrated on a single group of peers.
- Distance education services are accessed and sourced from a single entity.
- Faculty have a single source for research and writing support for development of course content, research strategies, writing enhancement and presentation possibilities.

Technology

The use of technology has enhanced the services offered by the Writing Lab. The use of technology for peer tutoring is well documented and is continually changing Balester (1992). As recently as 2007 Wood, Mackiewicz, Van Norman and Cooke advocated for the use of technology for peer tutoring, including the use of tape recorders, audio picture albums and portable card readers. Evans and Moore (2013) used a website to track and organize tutoring interactions within a large class. Moberg (2010) advocates for both the use of in-person and online peer tutoring practices.

The TAMUG Writing Lab has begun initial use of technology in a synchronous tutoring system. The traditional model of peer tutoring has been face-to-face and the Writing Lab has followed that model from its inception. The Writing Lab now uses TutorTrac software to enhance that face-to-face experience with an eye to offering both synchronous and asynchronous services in the future. The Writing Lab is also moving into new territory as a multiliteracy center, integrating research assistance as

well as teaching/learning technologies in to future services. Balester et al. not only suggest a move toward supporting a multimodal composition model but also to supporting new media (Balester 2012). This paper chronicles the early efforts of the Writing Lab, describes the adoption and implementation of the TutorTrac technology, and describes and analyzes the initial collection and development of metrics to determine success of the student and the Writing Lab. The paper also describes future strategies based on the analysis of those metrics.

Through the use of the TutorTrac online system the Writing Lab has:

- Increased the number of students being counseled.
- Improved performance feedback to Counselors and leadership.
- Enabled a richer evaluation system for faculty.
- Developed deeper metrics for Writing Lab efficiency and performance.

Development of the Writing Lab

The Writing Lab began in 2008 as a peer-educator program in the TAMUG English Department. The nascent program followed development similar to that outlined in Wilson and Arendale (2011) with the development of program goals, application of staffing resources to the Lab, support of other campus resources, obtaining facilities and offices and the recruitment and training of student counselors (p. 43-44). Using peer-to-peer counseling and continual integration of technology, the goal of the Writing Lab was and is to teach basic and advanced competency skills in writing and research rather than a set of discrete and individual grammar skills. Student Counselors "interact with students as writers, as opposed to viewing their tutees as grammar students or spelling students or formatting students" (Moberg, 2010, p. 3). As there is little or no remediation for those discrete writing skills built into the TAMUG curriculum, the Writing Lab has also taken on that role.

The Writing Lab began with five Counselors cohabitating space with faculty in the English Department. The counselors used traditional editing methods including physical copies of student's work and with virtually no technology in the beginning. In 2012, the Writing Lab experienced a couple of faculty leadership changes before physically relocating to the Jack K. Williams Library and coming under the direction of the Library Director. There are many examples of writing centers becoming successfully integrated with library operations (Rader, 2001; Cooke & Bledsoe, 2008; Merkley, 2013; Manhaffy, 2008). The integration of the Writing Lab with the Williams Library was seen as an opportunity to develop an operation that was more fully incorporated into the lifelong learning goals of the University. In 2013 a Literacy Coordinator was hired to run the daily operations of the Writing Lab and to turn the operation into a multiliteracy center, offering research assistance services and introduction and training on new learning and teaching technologies.

Currently the Writing Lab consists of ten junior or senior students who have taken one or more writing intensive courses specific to our curriculum and who have shown mastery of advanced writing mechanics and rhetoric. Additional skill sets required include customer service, critical analysis, research and document design.

Data Collection

As with many Writing Center startups, the original process required students to schedule a writing counseling session in person and bring printed drafts of their typed documents to the Writing Lab so writing counselors could mark up their text manually, which introduced difficulties when deciphering handwriting and proofreading marks. Students' documents have been created digitally for more than a

decade but were edited using analog methods. Data for decision-making were not available and would have been cumbersome to collect using a paper-based collection system.

A software-based scheduling and digital editing tool was needed to update this process. The process [AC6] of using physical copies of students' documents also reduced the Writing Lab's ability to measure the effect of the counseling sessions and whether the students showed improvement in their writing abilities. A content management system that students and faculty could access to review previous and current papers was required. Another issue concerned [AC7] the ability to organize data gathered from hand-written sign-in sheets and provide analysis of usage statistics. The lack of staff, time, and software support prevented the Writing Lab from reporting who was using the Writing Lab, when, and why to faculty or administration. Data from the pre-Tutortrac era included only basic data such as name, major, professor, class and the consultant's name. While somewhat helpful in keeping usage statisticsm, the system did not lend itself to any sort of diagnostics to support learning. Table 1 shows the most basic information that the old system would allow.

Table 1. Writing Lab Usage Aug 2012-May 2013

	Total Visits	First Time	Follow Up	Individuals
Pre-TutorTrac				
Aug-Dec 2012	1034	366	302	366
Jan-May 2013	1309	452	401	452

Table 1. Writing Lab Usage Aug 2012-May 2013

Several alternatives were examined for a web-based appointment and data collection system, including Cleopatra, a home-grown system used by flagship institution Texas A&M University in College Station, Texas. As TAMUG was already using TutorTrac for other tutoring services, including class-specific tutoring and supplemental instruction, it was decided to pilot test the system over the summer of 2013.

Criteria used to gage success of the pilot were:

- Ease of use of the basic technology.
- Integration into existing procedures during pilot.
- Robustness of the online system.
- Ease of reporting module for staff and faculty.

While usage was low over the summer, it was objectively decided that the amount and types of data that could be collected would be worth pursuing use of the system full-time. In the fall of 2013 Tutortrac was opened to the campus to use for scheduling and uploading of papers. The overall process for peer tutoring does not significantly differ from the established procedures, pre-Tutortrac. Automation of those processes has improved data collection enormously.

Table 2. Writing Lab Usage/ Reason Fall 2013

TOTAL	Visits	Hours	Students	Male	Female	Fresh	Soph	Jun	4th year Senior	5th year Senior	Grad
Overall Usage	1439	735	487	322	165	114	89	86	179	5	12
Blank	23	10.6	21	14	7	2	9	5	4	0	1
Book Search	4	2	4	4	0	1	0	3	0	0	0
Citations	143	70	71	54	17	12	4	16	36	1	2
Database Search	16	3.2	13	5	8	3	2	5	3	0	0
Dissertation	15	7.64	10	10	0	1	1	2	4	0	2
Document Design	362	176	192	136	56	56	37	26	68	1	4
Grammar Edits	715	347	299	192	107	63	62	54	106	3	10
Publication	8	3.25	7	6	1	2	1	0	4	0	0
Research	112	86.38	73	44	29	12	12	19	28	0	2
Resume	28	18.48	24	19	5	2	1	3	16	0	1
Thesis	11	8.67	11	9	2	2	3	1	5	0	0
Walk-in	2	0.81	2	0	2	0	0	2	0	0	0

Table 2. Writing Lab Usage/ Reason Fall 2013.

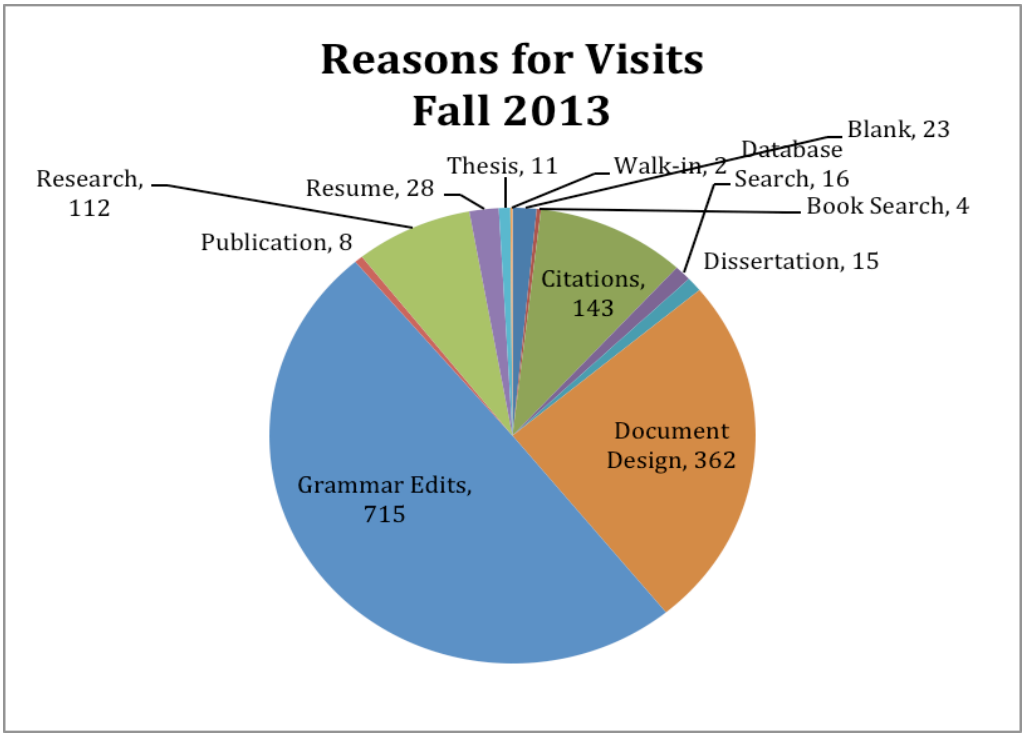

Figure 1. Reasons for visits to the Writing Center.

References

Balester, V., Grimm, N., McKinney, J.G., Lee, S., Sheridan, D.M., & Silver, N. (2014). The Idea of a Multiliteracy Center: Six responses. *Praxis: A Writing Center Journal* 9(2), 1-10. http://praxis.uwc.utexas.edu/index.php/praxis/article/view/59/pdf.

Barbour, W., Burns, L., Hoffmann, D. Klompien, K. & Lenker, M. (2009). The Dynamic Duo: Collaboration between writing centers and academic libraries. *LOEX Conference Proceedings 2007,* Paper 2. http://commons.emich.edu/loexconf2007/2.

Cooke, R., & Bledsoe, C. (2008). Writing Centers and libraries: One-stop shopping for better term papers. *Reference Librarian 49*(2), 119-127.

Elmborg, J.K. & Hook, S. 2005. *Centers for Learning: Writing Centers and libraries in collaboration.* Chicago: Publications in librarianship.

Evans, M. & Moore, J. (2013). Peer tutoring with the aid of the Internet. *British Journal of Educational Technology,* 44(1), 144-155. doi:10.1111/j.1467-8535.2011.01280.x,

Mahaffy, M. (2008). Exploring common ground: US Writing Center/Library collaboration. *New Library World*, 109(3/4), 173-181. doi:10.1108/03074800810857621.

Merkley, C. 2013. The launch of a Joint library/writing centre online course on academic integrity. *Evidence Based Library & Information Practice, 8*(2), 258-260.

Meyer, E., Forbes, C., & Bowers, J. (2010). The Research Center: creating an environment for interactive research consultations. *Reference Services Review*, *38*(1), 57-70.

Moberg, E. (2010, March 7). The college Writing Center: Best practices, best technologies. ERIC Online Submission (ED508644). http://files.eric.ed.gov/fulltext/ED508644.pdf.

Norgaard, R. (2004). Writing information literacy in the classroom. *Reference and User Services Quarterly,* 43(3), 124-125.

Office of the Provost, Texas A&M University. QEP: Aggies Commit to Lifelong Learning. http://provost.tamu.edu/initiatives/quality-enhancement-plan.

Rader, H.B. (2001). Cooperative ventures between the university and the library. Libraries and librarians: Making a difference in the Knowledge Age. *67th IFLA Council and General Conference*, August 16-25, 2001.

Wilson, W. L., & Arendale, D. R. (2011). Peer educators in learning assistance programs: Best practices for new programs. *New Directions For Student Services*, 133, 41-53.

Wood, C.L., Machiewicz, S.M., Van Norman, R.K. & Cooke, N.L. (2007). Tutoring with technology. *Intervention In School and Clinic*, 43(2), 108-115.

Session 3: New Initiatives & New Technologies
Moderator: Hannah Russell

THINKING OUTSIDE THE BOX: MAKING DIGITAL CONTENT AVAILABLE WHERE THE INTERNET IS NOT

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Abstract
Despite continuing progress, robust and reliable Internet access is still not available at an affordable cost to many research centers served by IAMSLIC libraries. In contrast, there is increasing availability of mobile devices with wireless capabilities among the researchers and students at many of those locations. IAMSLIC and its partners have made a growing body of full-text content available for open access through the Aquatic Commons and OceanDocs projects. In addition, the Secretariat of the Pacific Community has created its own open access repository, the FAME Digital Library. One approach to making this content more readily available to IAMSLIC institutions whose Internet access is problematic is to download copies of such digital publications onto inexpensive LibraryBox devices, which can make them available any time to anyone nearby who has a wireless device.

Keywords: LibraryBox, wireless access points, institutional repositories, open access, libraries.

Internet Access versus Mobile Cellular Subscriptions in the Pacific Islands Region

As shown in Table 1 below, the percentage of the population with wired broadband connections to the Internet is extremely low in most Pacific Island nations, even in some of the most economically developed countries. However, in many of the same countries the percentage which report using the Internet is substantially higher, likely due to the much higher saturation of mobile cellular subscriptions across most of the region. The International Telecommunication Union (2013) reports similar patterns in other areas of the developing world, particularly across much of the African continent.

Country	Percent using Internet	Mobile cell subscriptions per 100	Fixed (wired) broadband per 100
Nauru	n/a	68.0	0.0
Niue	86.9%	n/a	0.0
Papua New Guinea	6.5%	41.0	0.2
Solomon Islands	8.0%	57.6	0.3
Kirabati	11.5%	16.6	1.1
Fiji	37.1%	101.3	1.2
Indonesia	15.8%	121.5	1.3
Tonga	35.0%	54.6	1.6
Guam	65.4%	n/a	1.8
Micronesia	27.8%	30.3	2.0
Philippines	37.0%	104.5	2.6
Viet Nam	43.9%	130.9	5.6
Tuvalu	37.0%	34.4	7.1
Malaysia	67.0%	144.7	8.2
French Polynesia	56.8%	85.6	16.2
New Caledonia	66.0%	93.8	20.9
Australia	83.0%	106.8	25.0
New Zealand	82.8%	105.8	29.2

Table 1. Internet and cellular access for selected Pacific Island nations in 2013.

Also according to the International Telecommunication Union (2013), "Mobile broadband is much more expensive in developing countries. However, in developing countries, mobile broadband services cost considerably less than fixed-broadband services: 18.8% of monthly GNI p.c. for a 1 GB postpaid computer-based mobile-broadband plan compared to 30.1% of monthly GNI p.c. for a postpaid fixed-broadband plan with 1 GB of data volume."

At the 2014 IAMSLIC Conference in New Caledonia, feedback was solicited from members of the Pacific Islands Regional Group (PIRG) to confirm whether the national data on Internet and cellular access match their experience. The discussion also helped to assess the potential need for standalone wireless devices as a means of access to full-text content in areas with poor Internet access. Attendees at the conference were asked to share their observations and responses to the following questions:

- How reliable and robust is Internet access at your institution?
- How expensive is it?
- What percentage of your library users have mobile devices with Wi-Fi connectivity?
- Do you have remote research facilities with limited or no Internet access?
- Does your institution operate research vessels?

Attendees affirmed that while many central facilities in the island nations have reasonably good Internet connectivity, most other facilities do not, particularly those in more remote locations. Many or most of their researchers and library users do have access to personal wireless devices that would be able to connect to standalone wireless routers. They additionally noted that reliable electrical power is often not available in some of those remote facilities, therefore a preference was expressed for devices that incorporate a rechargeable battery.

Scope of Digital Collections

IAMSLIC undertook the development of a shared institutional repository called Aquatic Commons in 2007 as a means to collect and preserve digital versions of publications from member institutions. The statement of scope for Aquatic Commons is as follows:

> The Aquatic Commons is a thematic digital repository covering the natural marine, estuarine /brackish and fresh water environments. It includes all aspects of the science, technology, management and conservation of these environments, their organisms and resources, and the economic, sociological and legal aspects. It is complementary to OceanDocs, which is supported by the Intergovernmental Oceanographic Commission (IOC)/ International Oceanographic Data and Information Exchange (IODE) specifically to collect, preserve and facilitate access to all research output from members of their Ocean Data and Information Networks (ODINS). It is directed by the International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC) to provide visibility, usage and impact through global access to digital publication from worldwide marine and freshwater organizations that do not have access to an institutional repository of their own.

The Aquatic Commons contained over 12,500 total documents as of July 2014, including:

- 8700 related to fisheries.
- 1000 related to aquaculture.
- 3100 on biology.
- 2300 on ecology.
- 2100 on management.
- 1500 on limnology.

There was discussion at the conference about the Aquatic Commons content and whether it includes the documents that would be most directly useful to those in the region. Comments were generally positive; however, it was clear from two other conference presentations that the FAME Digital Library collection from the Secretariat of the Pacific Community (SPC) contains a much larger number of documents of immediate regional relevance. A request was made to consider the possibility of adding the 9,700 FAME documents to the full-text collection for use in Pacific Island Regional Group (PIRG) libraries and their associated fisheries facilities. A preliminary investigation showed that it would be possible to harvest all of the FAME metadata from their OAI-PMH compatible repository and that it could be merged with the Aquatic Commons metadata fairly easily.

Creating a User Interface

OAI-PMH Validator is a simple, but powerful web-based tool that was used to harvest metadata records from both of the repositories. It enabled the download of metadata from repository "sets" that correspond to broad subject areas or publication series, greatly simplifying the task of creating subject

listings as part of the user interface. It was also possible to harvest a complete set of records from each repository to generate the author indexes and a large, single text file on which search capabilities could be built. The metadata was harvested in Dublin Core format and delivered in XML, which was then parsed through a set of PHP scripts to extract the desired fields to form readable citations and to create links to the accompanying full-text documents. In creating the author indexes, individual author names were extracted and listed as entries, even from documents with multiple authors, to maximize retrieval of documents by a known person.

Metadata records were harvested from the two repositories and merged to create user interface options that replicated the primary options on the Aquatic Commons website:

- Basic search on keywords within citations, including simple Boolean.
- Browse by Author, Subject, or Issuing Agency.

In the project's user interface, one can use the web browser's "search in page" option to locate relevant items in lengthy subject pages such as Fisheries, which includes about 17,000 citations

LibraryBox as the Distribution Platform

The LibraryBox Project was initiated in 2012 and created a distribution platform that inspired the possibility of using it to extend access to the Aquatic Commons content. The lead developer, Jason Griffey (2014), describes the LibraryBox Project as "… an open source, portable digital file distribution tool based on inexpensive hardware. LibraryBox is a digital distribution tool for education, libraries, healthcare, and emergency response. Anywhere there is a lack of open Internet access, LibraryBox can bridge the gap of information delivery."

A LibraryBox consists of:

- A portable wireless router (a battery-powered model is also available).
- A USB flash drive for storage.
- Web server software that delivers files stored on the USB drive.

While pre-configured LibraryBoxes are available for purchase, the platform is open source and a device can be built from scratch with minimal effort and expense. The total cost for a supported Wi-Fi router and 64GB flash drive is approximately $70 USD. The 64GB flash drive is required for this project because the Aquatic Commons document files total 31GB and the FAME Digital Library documents add another 10GB.

Using the digital collections on a LibraryBox is quite simple:

1. Connect to the "*IAMSLIC Aquatic Commons*" wireless network with your mobile device.
2. Open a web browser.
3. If not redirected automatically, refresh the browser or type *librarybox.lan* into the address box.
4. Browse or search for documents and download those of interest.

Users of any LibraryBox remain completely anonymous, but document-level usage statistics are generated and will provide useful feedback regarding the topics and types of publications that receive the most use. The web server software incorporates a responsive design that displays well on laptops, tablets and smartphones. To test the ability of each LibraryBox device to support multiple, simultaneous users, at least 10 people in the room at the conference connected to each device and were able to successfully locate and download documents without any significant reduction of response time.

Project Evaluation

IAMSLIC purchased the hardware for the two LibraryBoxes that were taken to the conference with the agreement that they should be left with the institutions in the region that could best benefit from standalone wireless access in lieu of Internet access to the online repositories. The consensus was that the best way to make them available in the region would be through the network of contacts that the Pacific Islands Marine Resources Information System (PIMRIS) has already established. Therefore, both devices were left with the current PIMRIS coordinator based in Fiji, with the proviso that they be placed in locations that would test their feasibility to replace poor Internet access and that they would report back on their experience after using the devices for some months. USB drives with updated content that includes the FAME Digital Library were shipped to Fiji in order to have a more complete and relevant collection of documents for the pilot implementation phase.

If the pilot proves successful, plans will be made to place LibraryBox devices and the full-text content in additional locations within the Pacific Island region and possibly in IAMSLIC member libraries in Africa. It is anticipated that content from the digital repositories of PIMRIS would also be incorporated onto the LibraryBox devices within the region during this second phase of the project.

References

International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC). *Aquatic Commons*. http://aquaticcommons.org.

International Telecommunication Union. (2013). *Time Series by Country*. http://www.itu.int/en/ITU-D/Statistics.

Griffey, Jason. (2014). *About the LibraryBox Project*. http://librarybox.us/about.php.

file://localhost/OAI-PMH Validator. http/::validator.oaipmh.com.

Secretariat of the Pacific Community. *FAME Digital Library*. http://www.spc.int/DigitalLibrary/FAME.

Session 4: Importance Of a Library Association: IAMSLIC
Moderator: Sally Taylor

THE IMPORTANCE OF LIBRARY ASSOCIATIONS: WHY AND HOW IAMSLIC ADDS VALUE TO YOUR LIBRARY: SPC PERSPECTIVE

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Abstract:
This paper looks at the significant relationship Secretariat of the Pacific (SPC) Library has had with IAMSLIC over the last five years of their partnership. What are the benefits of such networking that have helped improve access to valuable resources? The paper will also discuss the "before and after IAMSLIC" networking in SPC's service to meet the user's needs and the relevance of IAMSLIC in the region. Examples will also be drawn from around the region and the Council of Regional Organizations in the Pacific (CROP) that network with IAMSLIC and their experiences with the challenges and solutions to effective service delivery. The paper will also focus on the use of IAMSLIC resources and added values such as Document Delivery, ILL and training that is made available to SPC and the region.

Keywords: Information services, library networks, partnerships, information management, libraries, International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC), Secretariat of the Pacific Community, Pacific.

The extent of the Secretariat of the Pacific Community's (SPC) coverage in terms of service delivery to its member countries is an enormous task considering the wide areas of sea, land and air in the Pacific Island countries. The region has a total landmass of more than 551,312 km^2, with a population of about 10 million (SPC 2013) and with different languages and cultures. The Secretariat of the Pacific Community is the only regional organization that covers and services all 22 Pacific Island Countries and Territories with technical assistance, capacity building training and research. The Pacific is geographically surrounded by oceans therefore our source of livelihood is our land and our ocean.

This is best summarized in the words of the Prime Minister of the Cook Islands in delivering his speech at the United Nations Conference of Small Island Developing States (SIDS) held in Samoa in September 2014, "For us in the Cook Islands, conservation of the ocean is part of our DNA. We were born into the ocean and we will die in the ocean. Our lives are so interconnected with the sea" (Puna, 2014).

Figure 1. Map of The Pacific Islands. *Source:* *https://familysearch.org/learn/wiki/en/File:Pacific_Map.png*.

The Secretariat of the Pacific Community Library's mission statement "[t]o achieve excellence in the collection, storage, preservation and retrieval of information to meet the research, learning and instructional needs of the SPC staff" (SPC, 2011) reflects the services that the Library provides. This mission statement is the driving force for which the Secretariat's Library exists and it is mandated by its governing bodies, the Conference of the Pacific Community and the Committee of Representatives of Governments and Administration (CRGA) (SPC, 2011).

The SPC Library is a private corporate library that aims at enhancing and servicing SPC's professional and technical staff, its projects and program.s The SPC Library also operates and functions regionally and internationally in association and partnerships with information service delivery organizations to fulfil its role in providing:

- Promotion and enhancement of information access and service delivery to SPC member countries and territories.
- Information resources in research and current awareness.
- Acquisition service delivery.
- Information management.
- Updating of serials for the IAMSLIC Z39.50 list.
- Contributions to the Aquatic Sciences and Fisheries Abstracts (ASFA).

The International Association of Aquatic and Marine Sciences Libraries and Information Centers (IAMSLIC), consisting of more than 300 members from more than 80 countries, plays an important role in aquatic and marine information resource sharing based on personal connections amongst its members (Butler et al., 2006).

The SPC Library and IAMSLIC association and partnership was established back in 2006. This partnership has had an enormous impact on the organization in terms of document and service delivery in equipping our staff with the much-needed information required to carry out their duties.

The SPC and IAMSLIC partnership has provided many welcome benefits. It has given SPC the opportunity to interact and communicate with international counterparts for information. This has greatly benefitted the SPC Library service delivery both internally and externally to its member countries. Prior to joining IAMSLIC, information in aquatic resources and marine sciences was limited to what countries could afford. Such services come with costs, hence the establishment of this association and subsequently the development of the relationship with IAMSLIC has provided a "one stop shop" with diversified information management and delivery in its discipline.

As Karn and Das (2009) noted, "[a] network usually consists of formal arrangement whereby materials, information and services provided by a variety of libraries and other organizations are available to all potential users." SPC's arrangement with IAMSLIC has made document delivery readily available for SPC staff, member countries and their users via the Z39.50.

Such benefits not only enhance service delivery and empower the Secretariat's staff but also assist our Pacific Island Countries and Territories (PICTs) by providing:

- Access to IAMSLIC Z39.50 Distributed Library borrowing privileges.
- Access to Union List of Marine and Aquatic serials.
- IAMSLIC membership benefits.
- Consultations with international professionals.
- Easy and free access to costly journal articles.
- Resource sharing – e-document delivery, ILL, exchange lists, training.
- Assistance to small libraries.
- Networking and development of long-term partnerships.

Information resource sharing is one of the many ways to increase availability of documents through our associations while minimizing expenses, which for many of our fisheries libraries in our PICTs is always a challenge. The association with IAMSLIC has truly added value to SPC Library and its document delivery by providing:

- Accessibility of SPC 's fisheries newsletters and information bulletins.

- Invaluable opportunities to partner/associate/network since funding is a challenge in many libraries.
- Access to information sources, e.g. Z39.50 and Union List of Marine and Aquatic Serials.
- Increased efficiency – requests go directly to individual lenders.
- Use of a compatible catalogue in the Distributed Library.
- Partnership and networking.

This association adds to the SPCs Library service delivery with:

- Guidance and support for networking opportunities.
- Sharing of resources.
- Assistance to libraries with funds and expertise to set up library systems using ICT to ensure wider access to marine and freshwater sciences.
- Efficient use of professional networks (IAMSLIC) to supplement traditional ILL services.
- Making SPC materials more visible.
- Enhancing user/client satisfaction.

The figures below illustrates why and how the IAMSLIC/SPC association has been very beneficial to our clients. The graph in Figure 1 illustrates the borrowing requests submitted to IAMSLIC by SPC, SOPAC (now part of SPC) and PIMRIS for the last five years.

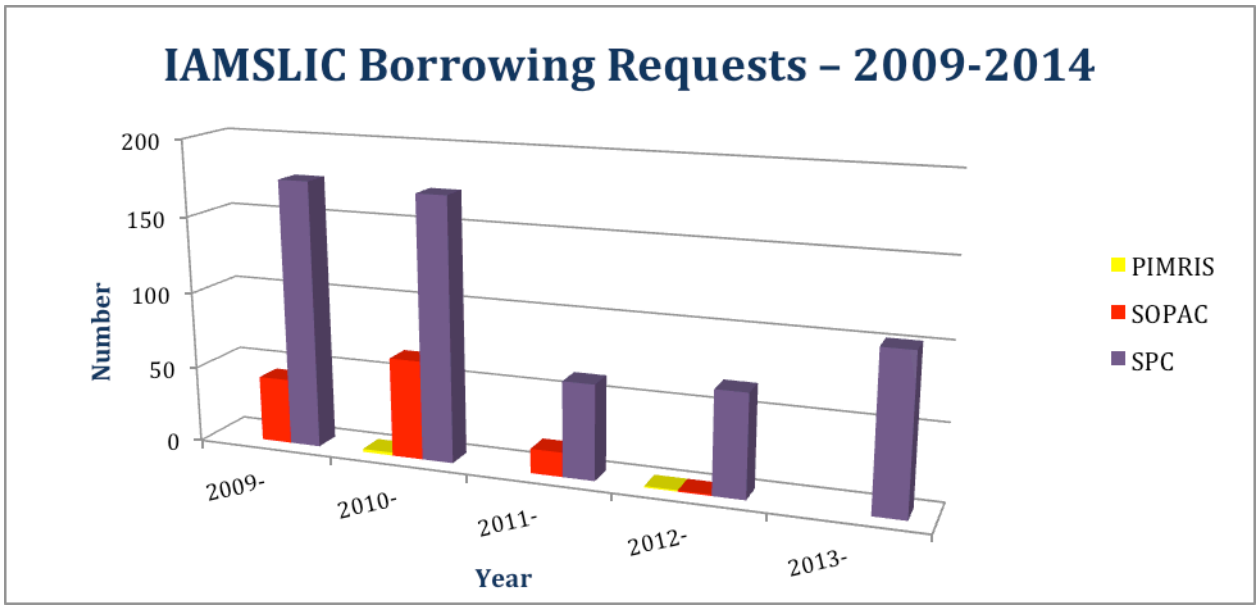

Figure 1: Borrowing requests to IAMSLIC for the last five years. Source of stats: *http://www.iamslic.org/ill/stats.php*.

For the SPC Library, its association with IAMSLIC has tremendously enhanced its service and document delivery to its staff. Even though there was a big drop in 2011-12 (which could be attributed to staff turnover in key library positions that oversee the SPC borrowing requests to IAMSLIC), these services have again picked up and will to continue to increase as the "friendship" becomes healthier.

In Figure 2 below, note that New Caledonia has so far during 2013-2014 placed more than 100 requests via the IAMSLIC Z39.50. SPC headquarters is based in Noumea, New Caledonia, accounting for the large number of requests from the SPC Library. This has been a great increase from 2011 and 2012 as per Figure 1 above.

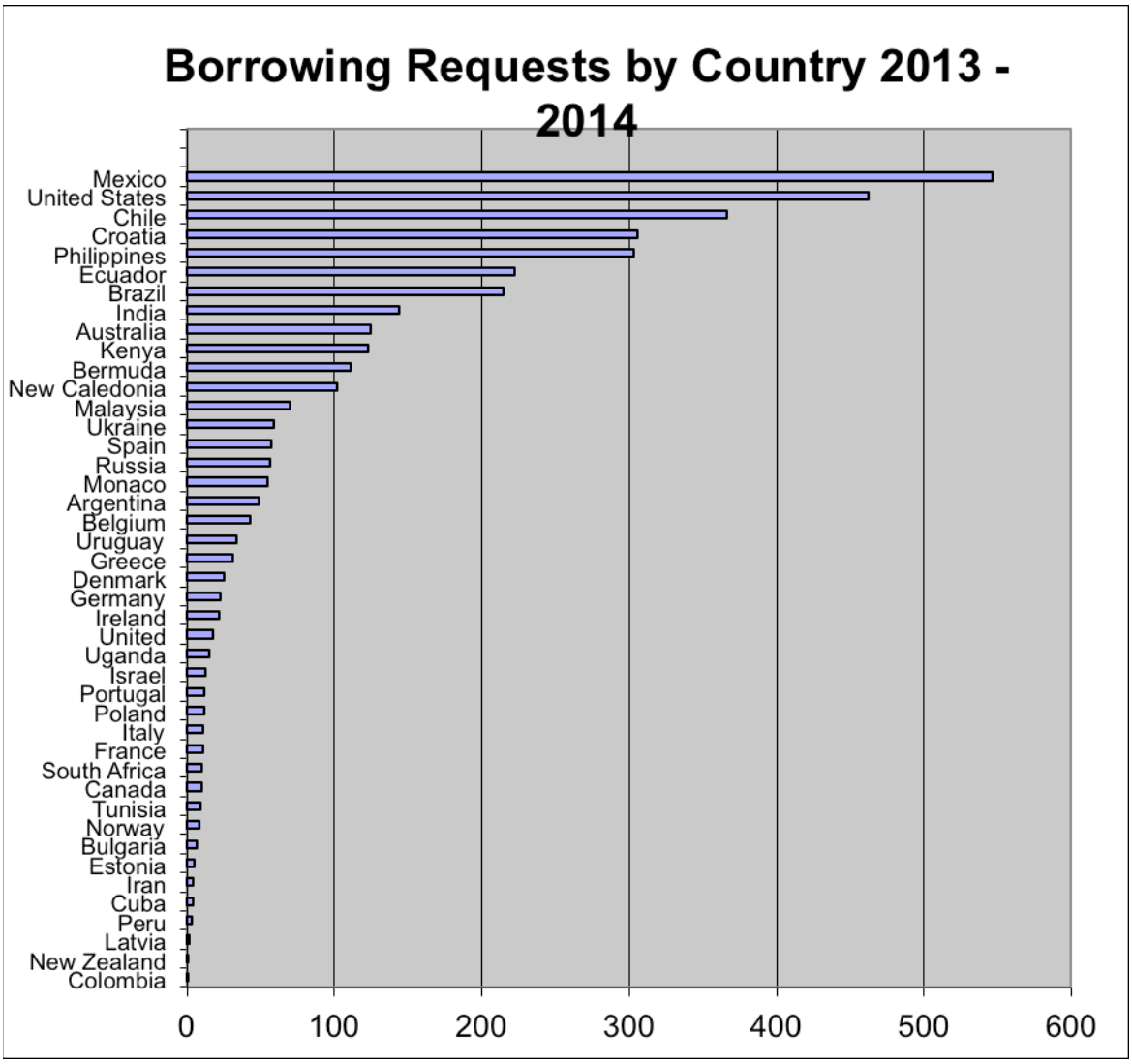

Fig. 2 Borrowing requests by country. Source stats: http://www.iamslic.org/ill/oldstats/index.php – IAMSLIC Z39.50 Distributed Library – Resources Sharing Statistics (2013-2014 Transaction Statistics: Excel Spreadsheet Analysis.

Building a strong library association and partnership is the way forward in providing access to information to our SPC community and the region as a whole. As mentioned in Bradley (2012), "[l]ibrary associations are advocates for equitable access to information, and help to build strong, sustainable

Library communities by improving services for library users, and supporting development of the profession."

Therefore, the way for this SPC/IAMSLIC association to flourish and be of great benefit to SPC staff and its member countries is to positively strengthen:

- Networking and collaboration.
- Marketing of the IAMSLIC Z39.50.
- Sponsorship.
- Use of regional and international information networks for resource sharing (PIMRIS, IAMSLIC, PEIN).
- Use of the PIRG listserv to facilitate communication.

The SPC /IAMSLIC association and collaboration is a highly active and connected partnership, providing information seekers in the SPC community with the information they need to effectively carry out their work. Butler et al. (2006) best summarize the SPC/IAMSLIC connection and commitment to sharing information: "IAMSLIC members are committed to sharing resources and respond to the needs of professional colleagues sometimes in spite of institutional policies, such as cost recovery and priority users."

References

Bradley, F. (2012). Building strong library associations: impact report 2012. [Online] Available at: http://www.ifla.org/files/assets/alp/BSLA/impact-report/IFLA_BSLA_impactreport_2012.pdf. [Accessed August 19 2014.]

Butler, B.A., Webster, J., Watkins, S.G. & Markham, J.W. (2006). Resource sharing within International library network: Using technology and professional cooperation to bridge the waters. Available at: http://archive.ifla.org/V/iflaj/IFLA-Journal-3-2006.pdf. [Accessed December 17 2014.]

Karn, S.K. and Das, B.K. (2009). Information and Library Network (INFLIBNET): a boon for higher education in India. Available at: *http://crl.du.ac.in/ical09/papers/index_files/ical-123_175_374_2_RV.pdf.* [Accessed December 11 2014.]

Puna, H. (2014). It's in our DNA to conserve ocean. P.M. of the Cook Islands interview at the United Nations Conference of Small Island Developing States (SIDS) held in Samoa on 1st September 1 2014. *Available at: http://www.pina.com.fj/?p=pacnews&m=read&o=14967782345403a338f3adcf4e8630.* [Accessed September 1 2014.]

SPC (2011). Library: About the Library [Online]. Available at: http://www.spc.int/en/the-library/about-the-library.html. [Accessed December 17 2014.]

SPC (2013). Pacific Island populations: estimates and projections of demographic indicators for selected years. Available at: http://www.spc.int/sdd/. [Accessed December 12 2014.]

Panel

FORTY YEARS OF IAMSLIC:
THE PAST, PRESENT AND FUTURE OF OUR ASSOCIATION

Panel Coordinator:
Sally Taylor

Invited Panelists:
Steve Watkins
California State University, Monterey Bay

Janet Webster
Oregon State University Library

Joe Wible
Hopkins Marine Station
Stanford University

Guest Speaker

THE IMPORTANCE OF PACIFIC FISHERIES AND THE ROLE OF FAME

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Abstract:
There are 30,000 islands scattered across the Pacific Ocean. These islands, which are divided into 22 Pacific Island Countries and Territories (PICTs), make up the island membership of the Pacific Community, and are a diverse group in terms of economic and social conditions. What they have in common is that all are islands surrounded by large areas of the tropical Pacific Ocean and have jurisdiction over areas of this ocean covering a total Exclusive Economic Zone (EEZ) area of almost 30 million square kilometers compared to their total land area, which is estimated to be 0.5 million square kilometers and are inhabited by over 9 million people. Almost all people in PICTs live on the coasts where entire communities are involved in fishing. As a component of the Secretariat of the Pacific Community's fisheries services to the Pacific Island countries and territories, the Fisheries, Aquaculture and Marine Ecosystems Division (FAME) is able to provide important and critical technical assistance through its Coastal Fisheries Programme (CFP). The activities of CFP include provision of support to Pacific Island Countries and territories in management of coastal fisheries, sustainable development of near-shore resources, and all aspects of aquaculture. Data collection and scientific information dissemination of coastal fisheries resources are also important services delivered under the FAME CFP. The Secretariat of the Pacific Community also provides fisheries services to the PICTs through the FAME Division Oceanic Fisheries Programme (OFP), which provides the region with scientific support and high quality scientific advice for the management of fisheries for tuna and associated species, with a strong focus on stock assessment and modeling.

Keywords: Pacific Island Countries and Territories (PICTS), Pacific Ocean, Secretariat of the Pacific Community, fisheries, libraries.

Session 6: Trends in Data and Open Access
Moderator: Susana Macanawai

MANAGING THE EDGES: A COASTAL DATA PARTNERSHIP

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Abstract:
The edges of islands and continents are, of course, critically important areas. Beaches, wetlands, shorelines, parks, tourist destinations, coastal communities - all are managed by some governmental or private entity. Best practices, management strategy documents, data sets and reports on how to manage these are often kept in local computers or even in boxes in basements, often inaccessible to management and the public. How can this information be made available to benefit those who have been charged with managing coastal resources? The Jack K. Williams Library at Texas A&M University at Galveston, the Texas Digital Library and the Galveston Island Parks Board have begun a collaboration to design a repository for the collection of Galveston Island beach management data and documents with an eye to developing a national model for collecting data and a national repository for those data. The Galveston Island Parks Board is tasked with managing over 32 miles of beaches and shoreline, including dunes, vegetation, parks, facilities and roads. While the partnership is in its early stages, significant progress has been made on collecting and organizing a wide array of information, and plans are developing to bring this collection to the wider world. This paper describes the history and uniqueness of the collaboration, the processes for collecting and disseminating data and documents, data collected, lessons learned and strategies for the future.

Keywords: Islands, coastlines, coastal resources, Galveston Island Parks Board, repositories, collaborations, libraries.

Introduction

Almost by definition, members of IAMSLIC work and reside near water. Most institutional members are coastal. Governmental entities, from the national level down to parks boards or private managers, manage some aspects of those coasts. These coastal regions have enormous impacts on the nation, as a source of recreation or industry. Economic sectors that are impacted by coastal regions include tourism

boards, local businesses, hotel and motel operations and state or provincial revenues. The National Resources Defense Council estimates that Americans alone take 900 million trips per year to coastal areas and spend over $40 billion USD (USEPA, 1996). Shoreline-adjacent counties contributed $6 trillion USD to the US domestic gross product and 47 million jobs (NOEP, 2010).

Williams and Micallef (2009) found that effective beach management leads to:

- Effective utilization of an increasingly valuable national resource.
- Encouragement to tourism.
- An increase in quality of recreational opportunities.
- A contribution to enhancement to nearby urban settlements.
- An enhancement of coastal protection.
- Facilitation of monitoring, regulation, planning and decision-making.
- Promotion of sustainable coastal development.

In Texas the coastal areas fall under the purview of the Texas General Land office with intergovernmental agreements with counties, cities and regional parks boards. In Galveston, Texas the beaches of Galveston County and the City of Galveston are management by the Galveston Park Board of Trustees (GPBT). The Park Board has a significant collection of documents, reports, data and studies that reflect best management practices in that area. The purpose of the GPBT is to manage, develop, and promote Galveston's natural resources and other assets in order to sustain and further tourism on the island. In particular, the Park Board concerns itself with the management and sustainable use of Galveston Island beaches. As such, the Board has an interest in measuring and recording these resources, and in devising policies to oversee their management and use. The Park Board produces or commissions the production of raw geographic and economic data (e.g. an end-to-end land survey of the island out to wading depth, currently underway; various industry surveys), studies, reports, and other documents.

Foundations

At Texas A&M University at Galveston, the Jack K. Williams Library supports the campus in part by collecting and providing access to information resources pertaining to the marine sciences and maritime professions. The Library, particularly through the creation and maintenance of the Galveston Bay Information Center, also serves researchers with scholarly interests in the Galveston Bay Complex and surrounding area, as well as the community of Galveston Island itself, by building and sharing collections of information relating to the area. The Galveston Bay Information Center, developed by TAMUG, comprises mostly science-oriented resources, but also includes historical and cultural material.

Researchers at Texas A&M University at Galveston and other parties with an interest in Galveston Island could benefit from the data and documents produced by the Galveston Park Board. Additionally, other Park Boards could benefit from seeing examples of the Galveston Park Board's work, and this information sharing could lead to the development of best practices and other tools to aid in the organizations' fulfillment of their missions. Thus, it is in the Library's and the Park Board's mutual interest to build an online information center that will host, organize, and provide access to this material.

Purpose

The purpose of the repository is to collect in one place digital copies of data and documents that can be of use to beach management entities across the nation including parks boards, cities, counties, private

entities and others interested in beach management. The repository provides open access to contents that will increase the usage and impact of data and documents. The repository maximizes the visibility of the Galveston Island Parks Board, Texas A&M University at Galveston, the City and County of Galveston through beach management efforts and provides a system for monitoring and assessing those efforts. The repository preserves content, provides open access, and serves as a model for data and document retention and use on a national scale.

Initial Process

- Identify Parks Board/City of Galveston data/documents appropriate to the purpose.
- Establish ingress/access processes for data/documents.
- Determine funding needs for staff and resources.
- Develop a web interface on top of TDL repository.
- Publicize resources.
- Develop the repository as a national resource.

Collection

The repository consists of raw data in various formats, reports of beach management efforts, documents pertaining to beach data, and other materials describing and supporting beach management practices. All resources in the repository are accessible online.

Resources are collected from the Galveston Island Parks Board, the City and County of Galveston and any contracted entity that uses data for beach measurement. TAMUG staff members organize resources and deposit them into the repository. The Galveston Island Parks Board determines criteria for the collection of resources.

Management

The Parks Board retains rights to all contributed resources to the repository. TAMUG staff contributes metadata to resources and manages digitization and administration of the TDL portal.

Access

Access to content is open to all. Administrative access is restricted to TAMUG staff and the Executive Director of the Parks Board, or their designated representative.

References

Williams, A. & Micallef, A. (2009). *Beach management: Principles and practice*. London: Earthscan.

National Ocean Economic Program (NOEP) (2010). Market Data, Coastal Economy Data, Shore Adjacent Coastal Zone Counties. noep.mbari.org/Market/coastal/coastalEcon.asp.

U.S. Environmental Protection Agency (1996). Liquid assets: A summertime perspective on the importance of clean water to the nation's economy. Publication no. 800-R-96-002 (May 1996), 2.

Williams, A. & Micallef, A. (2009). *Beach management: Principles and practice*. London: Earthscan.

National Ocean Economic Program (NOEP) (2010). Market Data, Coastal Economy Data, Shore Adjacent Coastal Zone Counties. noep.mbari.org/Market/coastal/coastalEcon.asp.

U.S. Environmental Protection Agency (1996). Liquid assets: A summertime perspective on the importance of clean water to the nation's economy. Publication no. 800-R-96-002 (May 1996), 2.

Trends In Data and Open Access
Moderator: Susana Macanawai

DATA CITATION RATES: GIS DATA IN THE MARINE SCIENCES AND PUBLISHER CITATION REQUIREMENTS

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Abstract:
While researchers are beginning to cite datasets, the trend to cite has not been widely adopted. In papers that use Geographic Information Systems (GIS), the citation of data can be easily identified when maps display background data that is not original to the author, such as bathymetry. This study assesses marine and aquatic GIS data citation from 2013 and illustrates scholarly trends in data citation. Author requirements by publishers are investigated to see if there is a relationship established between these requirements and data citations. English language academic papers indexed within *Aquatic Sciences and Fisheries Abstracts (ASFA)* are examined. This is a follow-up of a study conducted using *Web of Science*, published by the author in the 2013 IAMSLIC *Proceedings*.
Keywords: Data citation, GIS, geographic information systems, geospatial data, spatial data, marine, aquatic, publishers & publishing, authors & publishers, data literacy.

Research papers that utilize Geographic Information Systems (GIS) to create maps present useful opportunities for illuminating data citation trends. GIS maps are created with software where layers of data combine with each other. The end result is a map within an article that can be examined to see whether and how attribution is given for the use of these data layers. In maps such as these, original data collected in the field are combined with data from other sources. These other data layers are investigated here to determine whether and how data use is attributed. In the articles reviewed in this study, these layers typically include political boundaries, topography and bathymetry. In previous research, I found that GIS sources are frequently credited within the text of an article, but are not listed within the works cited or references sections (LaBonte, 2013). The present study examines a new set of articles, builds upon the 2013 research, and links citation rates to publisher data citation requirements.

The early work of Seiber and Trumbo (1995) illuminated the issue of a lack of data citation in the social sciences. They recommended requiring that editors develop a journal policy to determine whether sources of data are or are not from the author in order to "foster accurate citation of shared data." In 2010, Weber et al. evaluated 307 journal titles in the field of Environmental Studies and found that only 6% gave data citation instructions.

The design of the present study was for a presentation to be delivered at the International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC) Conference in September 2014 in Noumea, New Caledonia. I constructed a query in *Aquatic Sciences and Fisheries Abstracts*

(ASFA) using peer-reviewed English language articles from 2013 with the keyword terms ((marine OR aquatic) and (GIS OR "geographic information system*")). The Materials & Methods and References sections of each article in the set of search results were examined to identify data attribution. In addition, I used the "Find" function in Adobe Acrobat and Google Chrome to look for the specific keywords relating to data that might be cited. These words were: *GIS, ArcMap, "spatial data", data, figure, layer*, and *map*. Of the 192 articles in the search results, 164 were ultimately evaluated. Thirteen articles did not have GIS maps, three had only original data in the maps, three were in non-English languages, and nine could not be supplied through Interlibrary Loan. In one article, GIS stood for the Greenland Ice Sheet, so it was not included in the study.

Seventy% of articles examined had some form of data attribution in the text, while 20% of the articles cited the data within the references or works cited sections (Table 1). The 164 articles were published in 83 different journals; of those, eight journals (10%) had a data citation requirement in the instructions for authors: seven journals (8%) within the reference or works cited sections and one journal (1%) within the text of the article (Table 2). The eight journals with a data citation requirement had thirteen articles included in this study and eight of them attributed where the data came from.

Articles examined	164
Data attributed within text	114
Data cited in references or works cited	33

Table 1: Articles with data attribution or citation.

Unique journals represented	83
Journals with a data citation or attribution requirement	8
- Within references or works cited	7
- Within text	1

Table 2: Journals with data attribution or citation requirements in the instructions for authors.

Some publishers require that authors use a certain manuscript preparation style, and that style may or may not have requirements or examples of data citation. Sixteen journals (19%) required the use of specific style manuals, and an additional six journals (7%) accepted any style, as long as the whole paper conformed to it (Table 3). Five of the eight style manuals that were referred to specified how to cite data (Table 4). There were 19 articles examined from journals with style manual requirements that have data citation instructions. Of these, 14 (74%) had citations within the text, and 2 (10%) also had citations in the list of references.

Unique journals represented	83
Style referred to in author instructions	24
- Specific manual referenced	16
- Any style referenced	6

Table 3: Journals that referenced style in the instructions for authors.

Style Manual	Data name for citation instructions
American Chemical Society	Data Sets
American Psychological Association	Data Sets
Chicago	Scientific Databases
Council of Science Editors	Database
Ecological Society of America	None
Entomological Society of America	None
Harvard	Datasets
ISO 690/1987	None

Table 4. Style manuals linked from author guidelines and data citation instructions.

Little research has been conducted to examine citation rates of data at this time. Mooney and Newton released a study in 2012 that showed similar results to the present study. While their study examined data citation in the broadest sense, reviewing 2010 social science, science and humanities articles, they came to the conclusion that "citation of digital research data is a rarefied activity." If data citations are listed within the Reference or Works Cited sections, they are easy to discover and can be included within citation software, such as Thomson Reuters' *Data Citation Index*. As stated by The Future of Research Communications and e-Scholarship in the final Joint Declaration of Data Citation Principles, "data citations should be accorded the same importance in the scholarly record as citations of other research objects, such as publications".

As more funding agencies require data archiving and the growth of data repositories continues, there will be a greater likelihood of publishers requiring data citation in a specified format. Librarians have a role in educating researchers and students on data literacy topics. Open Access Week is an appropriate venue, and librarians can also create web pages that link to sites like Data Pub, which gives directions for data citation and links to standards. It is hoped that editors and peer-reviewers will become acquainted with the publisher's data citation requirements and take responsibility to vet data citations through the peer review process.

References

Data Pub. (2014). *Data Citation.* California Digital Library. Retrieved from http://datapub.cdlib.org/datacitation/.

LaBonte, K. (2013). GIS data citation rates: Are data being properly credited in lists of references? IAMSLIC 2013. Paper presented at IAMSLIC 2013, Dania Beach, FL, USA. https://darchive.mblwhoilibrary.org/handle/1912/6657.

Mooney, H. & Newton, M. (2012). The anatomy of a data citation: Discovery, reuse, and credit. *Journal of Librarianship and Scholarly Communication,* 1(1), eP1035. http://dx.doi.org/10.7710/2162-3309.1035.

Sieber, Joan E. & Bruce E. Trumbo (1995). (Not) Giving Credit Where Credit is Due: Citation of Data Sets. *Science and Engineering Ethics*, 1, 11-20. hthttp://link.springer.com/article/10.1007%2FBF02628694#page-1.

The Future of Research Communications and e-Scholarship (2014). *Joint Declaration of Data Citation Principles – Final*. Retrieved from https://www.force11.org/datacitation.

Weber, N., Piwowar, H., & Vision, T. (2010). Evaluating data citation and sharing policies in the environmental sciences. *ASIST 2010.* Paper presented at ASIST 2010, Pittsburgh, PA, USA. https://www.asis.org/asist2010/proceedings/proceedings/ASIST_AM10/submissions/445_Final_Submission.pdf.

Session 6: Trends in Data and Open Access
Moderator: Susana Macanawai

THE GOOD, THE MUDDLE AND THE PREDATORY: OPEN ACCESS JOURNALS IN MARINE & AQUATIC SCIENCES

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Abstract:
As the options for open access publishing increase, scientists and students are a bit befuddled by the choices and the costs. Librarians are being asked difficult questions: Is this an okay journal in which to publish? Is the editorial board reputable? How much is this going to cost? Is it worth it? While compiling our biannual review of journals in marine science and technology for *Magazines for Libraries*, we explored the current options. These are described here as "the good, the muddle and the predatory." Our intent is to provide a brief primer for librarians to use when asked questions about open access publishing.

Keywords: Open access, collection development, journals, scholarly publishing, librarians.

Introduction

We have collaborated for years on a variety of projects. Every two years, we update the marine science and technology section of *Magazines for Libraries*, a reference resource for libraries selecting or assessing journals for their collections. Every time we do it, we try to find a new angle rather than just reviewing our recommended titles, their coverage, audience and pricing. For the 23rd edition, we decided to look more closely at open access (OA) options.

This paper builds on that work. We felt that IAMSLIC members could use more background on OA options when working with authors in their institutions. As we worked through the options, the journals did not fall into "the good, the bad and the ugly." Our thinking was challenged with many policies and choices being confusing, so that the journals seem to be "the good, the muddle and the predatory."

Methodology
We selected titles from our master list of journals as examples of the variety of approaches to OA within the marine and aquatic sciences (Butler & Webster, 2011). We selected titles that demonstrated the range of options as well as representing a solid sample of the publishers involved with the field. Once the titles were selected, we examined the journal's policy and guidelines concerning OA. Additionally, we explored current conversations in the scholarly publishing environment concerning OA. We also identified new titles that were not on the master list, but were examples of different approaches to OA.

Definitions of Open Access:
The classic definition of OA is that the information is digital, available online (not just on one person's computer), free of charge and free of most copyright and licensing restrictions (Suber, 2004, revised 2013). There are aspects of OA that on the surface seem simple, but have many nuances.

The Green OA option allows an author to archive his or her article. That can happen in a variety of spaces (e.g. institutional repositories, subject repositories, personal web pages) and in a range of versions. What version can be deposited varies by publisher and journal.
These versions include:

- A pre-print: The manuscript prior to any review and copyediting. (Consequently, the final published version can be quite different with errors corrected, statistics clarified and writing strengthened.)
- A post-print: The manuscript has gone through the review process but not final editing. That said, not everyone agrees on what is a post-print. InterResearch describes it clearly –" the author-generated version of the manuscript accepted for publication and sent to the publisher for production (i.e. includes the corrections made during peer review, but excludes corrections and enhancements made by the publisher's sub-editors, copy-editors, graphic designers, and web-services" (Kinne, n.d.).
- The Version of Record: The published article.

Gold OA implies that the access is through the publisher. It comes in several shades as well. All provide free access to the reader, but many charge the author or have other restrictions. The types of Gold OA include:

- Direct: These are the journals that are completely open from start to finish. *Society and Ecology* (http://www.ecologyandsociety.org/) is an example.
- Delayed: Free access is open after a certain period. *Marine Ecology Progress Series* (http://www.int-res.com/journals/meps/meps-home/) is an example.
- Hybrid: These are selectively open; some articles are accessible because the authors paid a surcharge or the editors decided that an article needed to be accessible given its subject and reader demand.

The Changing Environment of Scholarly Communication
Open access to scientific information appears to be growing. Bjork et al. used articles published in 2008 to assess the availability of a random sample of primarily science scholarly articles (Bjork et al., 2010). They found that 20.4% of scholarly journals were available (8.5% as Gold OA and 11.9% as Green). In 2013, Khabsa and Giles estimated that 24% of scholarly journals were open. Some disciplines were higher than others (Khabsa & Giles, 2014). Chen makes the case through his research that 50% of science journal articles are open as of 2014 (Chen, 2014). Some suggest that this trend might slow as

authors question publishing charges and scholarly publishers assess option and funding shifts (Rizor & Holley, 2014; Solomon & Björk, 2012; Van Rooyen & TBI Communications, 2014).

Authors in our institutions, whether students, young scientists or established managers, are trying to understand the options and the implications of where they choose to publish. New journals emerge; publisher policies change; and universities and funding agencies require access. Authors wonder if they should respond to the stream of requests to be editors of or submit papers to journals that are new and unfamiliar. They want to know why they have to pay to make an article open. They puzzle over copyright transfer agreements. Librarians are still paying a lot for journal subscriptions and face annual increases. Open access is a "comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community" (Conference on Open Access to Knowledge in the Sciences and Humanities, 2003). Since the 2003 Berlin Declaration was signed, OA has added a level of complexity to the scholarly communication environment as well as being a powerful mechanism for change.

This is where we get into the differences in types of OA, and start to describe the good, the muddle and the predatory publishers and their journals. Most seem to fall into the muddle category; they are not completely open with no author payment or a reasonable one that is clearly outlined in the author instructions. Sometimes the OA comes with a delay or is spotty. Examples help to describe the situation.

The Good

Few journals are completely open with no author charges or subscription fees for libraries or readers. The few in marine and aquatic science that are truly open are subsidized. These would be considered "The Good" if only considering the purest definition of OA.

- *Scientia Marina* has been published since 1955 with funding from the Institut Ciencies del Mar in Barcelona. It uses the Open Journal System (https://pkp.sfu.ca/ojs/) for submissions, reviewing, editing and production. All content is accessible including forthcoming articles.
- *Knowledge and Management of Aquatic Ecosystems,* published by EDP, is sponsored by the French National Agency for Water and Aquatic Environments. There are no author charges, its copyright transfer agreement is reasonable and all content is freely available.
- *Journal of Marine Animals & Their Ecology* is a volunteer effort. So, while not timely, it is freely available and very focused on rescue and rehabilitation of marine life - the interests of the volunteers that produce it.
- *Fishery Bulletin*, a US government publication, is in the public domain under the copyright law of the United States. The government covers the cost of editing, publishing and distributing with U.S. government employees doing this as part of their work.

The Muddle

Many journals, if not most in our field, are in 'The Muddle." Many are both Green (e.g. allowing depositing by the authors into a repository) as well as Gold (e.g. having a mechanism for the author to make an article immediately open). These three are examples of the variety of approaches to OA.

- *Botanica Marina* allows archiving of the post-print after 12 months.
- *Canadian Journal of Fisheries & Aquatic Science* allows posting of the pre-print after being submitted or accepted. For $3000 USD, an author can purchase immediate OA through NRC's OpenArticle program.
- *Biological Bulletin* does not allow posting to a repository; however all content becomes freely accessible after 12 months. Also the annual June Symposium issue is immediately OA.

Each major publisher has a different approach to providing Gold OA. All involve author charges and these vary from as high as $3000 USD (NRC's OpenArticle and Springer's OpenChoice) to ASLO's $350 USD for immediate OA in *Limnology & Oceanography*. Inter-Research, publisher of *Marine Ecology Progress Series*, has a Gold option that depends on whether the author grants exclusive or non-exclusive copyright and the price varies depending on length of the article. The burden of Gold OA rests on the authors and how much they can pay. Their article processing charges should be weighed against library subscription rates to assess whether Gold OA is worth the price.

The publishers also vary in their policies toward Green OA. Elsevier allows archiving of pre or post print, but not the Version of Record. Authors publishing with Oxford University Press may deposit a pre-print anytime but must wait 12 months after online publishing to deposit a post-print. Springer requires authors to wait 12 months before depositing a pre- or post- print. There is even variation within a publisher's suite of journals. Again, the author needs to investigate the Green OA options as they are not consistent.

The Predatory, or Not

While established publishers may be inconsistent and confusing with their policies, they are not overtly predatory. The truly predatory are attempting to profit from the competitive publishing environment and the pressure on authors to publish. Occasionally, we see new journals that imitate existing ones in an attempt to deceive authors. A non-marine science example is the *Jökull: Journal of Earth Sciences* (http://jokulljournal.is/) that has been published by the Iceland Glaciological Society and Geoscience Society of Iceland since 1950 versus *Jökull: The Iceland Journal of Life Science* (http://jokulljournal.com/), an imposter (Beall, 2013a). This is an extreme case of predatory publishing. Others lack quality control. They use email spamming to recruit editors and authors. There is little editorial oversight or copy editing. The review process is often limited.

Jeffrey Beall, a scholarly communication librarian at the University of Colorado Denver, has taken it upon himself to keep lists of predatory publishers and lists as well as to actively investigate the topic (Beall, 2013b). He concedes that it is not always easy to tell. *Open Journal of Marine Science*, published by Scientific Research, prominently posts the OA logo on it website. The page charges are not outrageous ($800 USD/10 pages + $50 USD per page for additional pages); the limited reviewing and copyediting is fast (four weeks). The very profitable Hindawi publishes a large suite of OA Gold journals including *Journal of Marine Biology* The article processing charge is $600 USD and reviewing is speedy. However, there is no editor-in-chief so reviewing is shared while final decisions rests with an assigned editor. Does profitability mean a publisher is predatory, though? *International Journal of Marine Biology* also does not have an editorial board but relies on a network of reviewers. The article processing charge is $1100 USD. The Sophia Publishing Group produces nearly 100 peer-reviewed online journals and 100 new books annually in print and online.

Frontiers in Marine Science is a new title that has been aggressive in recruiting authors and editors. The Frontiers series of 45 journals is an endeavor started by scientists from the Swiss Federal Institute of Technology. There is a complex article processing charge schedule. They are experimenting with a more open review process that involves an internal review and then an interactive one. An added twist is that the Nature Publishing Group has purchased an interest in this suite of OA journals, perhaps signaling perceived potential for profit in a new sector.

"Predatory" journals are the "new kids on the block." Their operations are new so it is hard to gauge the quality and the value. However, authors need to be wary of identity theft, high article processing charges, lack of quality control and false claims (e.g. undeserved impact factors).

Advice to Authors and Librarians

Beall offers sound, yet complex, advice to authors investigating OA journals (Beall, 2012).The Open Access Scholarly Publishers Association has a code of conduct that provides an excellent means of assessing publishers and their products (Open Access Scholarly Publishers Association, 2014). It comes down to common sense and taking time to learn about a journal.

- The publisher and journal information should be very obvious.
- There must be some kind of peer-review process.
- Editorial boards should have experts in the field.
- Fees and page charges must be clearly stated and easy to understand.
- Direct marketing should be appropriate and unobtrusive.
- Licensing should be clearly stated and visible.
- Instructions to authors should be available.
- The website should demonstrate a level of professionalism.

Authors have responsibilities that are made more challenging with the OA options. They should think about their appropriate audience and what is the best outlet to reach that audience. Expediency can be a trap where speedy publication is promised but quality suffers from lack of adequate review and copyediting. Authors also need to understand their copyrights, rather than simply sign copyright transfer agreements. This is particularly important if these authors have requirements under university OA policies, government regulations or funder requirements.

Open Access is complicated and even messy. There are people trying to make money from the hard work of others. There are scientists who want quick recognition for not very sound work. Even so, OA is a significant change in improving access to scientific information throughout the world and in helping change the way authors work. In 2010, the Study of Open Access Publishing Project undertook a large scale survey of international scientists to learn about their attitudes and experiences with OA publishing (Dallmeier-Tiessen et al., 2011). Most of the published scientists surveyed (89%) considered OA publishing beneficial to their discipline, but few actually publish in OA journals. When queried further on the most important criteria for choosing to publish in OA journals, those scientists point to freely available content, the quality and prestige of the journal and no charges. They do not want to pay to publish.

Publishing costs money and someone pays. There must be shared responsibility for the cost of scholarly communication among the publishers, the authors, their institutions and the libraries. New models are being tested. *PlosOne* gives discounts to authors if their institutions have a membership. *PeerJ* has an author membership model where authors can publish one to unlimited publications depending on the level of membership. *eLife* is an example of funding organizations (Howard Hughes Medical, Wellcome Trust and Max Planck Society) developing and paying for a publishing platform to encourage early career scientists in the life sciences and biomedicine. While not marine or aquatic specific, *PeerJ* and *PlosOne* may be useful outlets for authors at our institutions.

Rather than raging about journal prices or trumpeting the supposed panacea of OA, we need to engage in the complex evolution of scholarly communication and be honest that we must share the cost. One element is being comfortable talking about the different types of OA:

- Green – depositing into a repository, usually a pre or post print, not the Version of Record – the published copy.
- Gold – freely accessible through the publisher, whether directly open, author-pays, institution/library pays, or delayed.

We can keep track of what titles are emerging and be ready to offer advice on how to assess new journals. We can help promote the 'good' journals, even if they are not the most prestigious. We can even consider if IAMSLIC should start a journal or help others do so.

Science is built on the work of those who came before. This is why libraries exist: we facilitate the preservation, management and sharing of information. Open access is one way to do the later. We need to help our scientists and students develop their approaches to communicating their work to colleagues and a broader audience. Open is not necessarily good. It can be a muddle or predatory. Learning to define the nuances and the best options is our challenge.

References:

Beall, Jeffrey. (2012). Criteria for determining predatory Open-Access publishers (2nd edition). From http://scholarlyoa.com/2012/11/30/criteria-for-determining-predatory-open-access-publishers-2nd-edition/.

Beall, Jeffrey. (2013a). Icelandic journal lateset victim of journal hijacking. From http://scholarlyoa.com/2013/08/13/icelandic-journal/ - more-2044.

Beall, Jeffrey. (2013b). Predatory publishing is just one of the consequneces of gold open access. *Learned Publishing, 26*(2), 79-84.

Bjork, B. C., Welling, P., Laakso, M., Majlender, P., Hedlund, T., & Guonason, G. (2010). Open Access to the scientific journal literature: Situation 2009. *Plos One, 5*(6). doi: 10.1371/journal.pone.0011273.

Butler, Barbara, & Webster, Janet G. (2011). *Core Journals: Fact or Fiction*. Paper presented at the 36th IAMSLIC Conference, Mar del Plata, Argentina. http://hdl.handle.net/1957/19176.

Chen, X. T. (2014). Open Access in 2013: Reaching the 50% milestone. *Serials review, 40*(1), 21-27. doi: 10.1080/00987913.2014.895556.

Conference on Open Access to Knowledge in the Sciences and Humanities. (2003). Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. from http://oa.mpg.de/openaccess-berlin/berlindeclaration.html.

Dallmeier-Tiessen, Suenje , Darby, Robert , Goerner, Bettina , Hyppoelae, Jenni , Igo-Kemenes, Peter , Kahn, Deborah , van der Stelt, Wim (2011). Open access journals --what publishers offer, what researchers want. *Information Services and Use, 31*(1-2), 85-91.

Khabsa, Madian, & Giles, C. Lee. (2014). The number of scholarly documents on the public web. *Plos One, 9*(5). doi: 10.1371/journal.pone.0093949.

Kinne, Otto. (n.d.). Open Access. 2014, from http://www.int-res.com/journals/open-access/.

Open Access Scholarly Publishers Association. (2014). Code of Conduct. from http://oaspa.org/membership/code-of-conduct/.

Rizor, Sara L., & Holley, Robert P. (2014). Open Access goals revisited: How Green and Gold Open Access are meeting (or not) their original goals. *Journal of Scholarly Publishing, 45*(4), 321-335. doi: 10.3138/jsp.45.4.01.

Solomon, David J., & Björk, Bo-Christer. (2012). A study of open access journals using article processing charges. *Journal of the American Society for Information Science and Technology, 63*(8), 1485-1495. doi: 10.1002/asi.22673.

Suber, Peter. (2004, revised 2013). Open Access overview. 2014, from http://bit.ly/oa-overview.

Van Rooyen, Charlotte, & TBI Communications. (2014). Learned society attitudes towards Open Access: Report on survey results (pp. 20). Oxford, UK: EDP Open.

Session 6: Trends in Data and Open Access
Moderator: Susana Macanawai

OPEN DATA MANAGEMENT (INTEROPERABILITY AND STANDARDS): A PACIFIC PERSPECTIVE

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Abstract:
How best can we manage and share information? This paper proposes to outline, discuss and hopefully initiate the development of possible frameworks for robust standards and interoperable platforms for open data management. Attempts are underway in some regional organizations and Pacific regional domestic entities towards this worthwhile cause as we try to harvest as much as we can in this explosive digital information era. Information sharing and dissemination are as reliable as their sources and there is a critical need to collaboratively re-design standards that can protect and ensure the reliability of much needed information using user-friendly architectural platforms and accessible tools. Examples and experiences in this paper have been drawn from around the Pacific with the hope that they will elicit interest and experiences from other participants.

Keywords: Data management, Pacific Islands, libraries.

Session 7: Preservation: Special Collections
Moderator: Samuela Nakalevu

THE RESTORATION, CONSERVATION AND DIGITIZATION OF RARE BOOKS OF THE VIETNAM INSITUTTE OF OCEANOGRAPHY (VNIO) LIBRARY

Dang Thi Hai Yen,* Nguyen Thanh Van*, Vo Thi Mai*
*VNIO

Linda Pikula, Nancy E. Kraft** - **
IOC, IODE, OceanTeacher

Abstract:
From the 19th century on, many oceanography books were published, marking the development of oceanography science. The Vietnam Institute of Oceanography was founded in 1922. Its Library has a valuable collection of rare books, such as *The Siboga Expedition* (a scientific Dutch zoological and hydrographical expedition to Indonesia from March 1899 to February 1900), *The fishes of India* (by Francis Day, 1878), and *The voyage of HMS Challenger from 1872 to 1876*. This rare book collection not only contains history but is also a very useful reference in current oceanography science. Vietnam is a tropical country and temperature and humidity are always high, conditions that are not good for the conservation of books. Because some of these books crumble very easily and we have limited experience and lack of professional equipment, we categorize them as unable to be processed. In other cases we make archival boxes for books or digitize them by scanning or taking pictures using a digital camera. All scanned files and photo files are stored at least in 150dpi resolution. Then we combine them page by page to create PDF files and store them in PC hard disks and DVD ROMs. In February 2012, with the support of the Intergovernmental Oceanographic Data and Information Exchange (IODE/UNESCO, IOC), Mrs, Linda Pikula & Prof. Nancy E. Kraft, experts of Ocean Teacher Academy/IODE, visited our library and guided us on many techniques for book and paper conservation and how to preserve digital books. In future we wish to continue conservation and digitization and would also like to restore other books. However, we have limited knowledge and look forward to international cooperation to maintain the rare books; they are a resource not only for Vietnam but also for oceanographers in general. Since many old oceanography books have been digitized and are archived in various digital libraries, perhaps IAMSLIC could create a directory/bibliography for all digitized oceanography books.

Keywords: Oceanography, rare books, Vietnam Institute of Oceangraphy, digitization, book conservation, libraries.

The **Institute of Oceanography in Nhatrang** is an oceanography institute located next to Cau Da Wharf, about 6km from the centre of Nha Trang city, KhanhHoa Province, Vietnam. Established in 1922, it was one of the first centers for scientific research in Vietnam and is an important location for tropical

oceanographic research. The National Oceanographic Museum is located next to the Institute and has more than 20,000 sea and freshwater creatures on display.

I. Introduction

Vietnam is situated in the tropical monsoon area of Southeast Asia. It has a coastline of 3260 km. In a country where half of the population lives on the coast and depends on the sea for its livelihood, so the importance of Vietnam's Institute of Oceanography (VNIO) is undeniable. The Institute began its life as the Service Oceanographique des Pêches de l'Indochine in 1922, becoming the Institute of Oceanographique de l'Indochine in 1930.

The Institute's Library, founded in 1922, is a specialized oceanographic library for Vietnam. It has become famous for its collection of original historical books on the oceanography of the world published during the 18th and 19th centuries.

Figure 1. Institut Océanographique de L'Indochine: Laboratoire de Cauda et le de Lanessan au mouillage (1926).

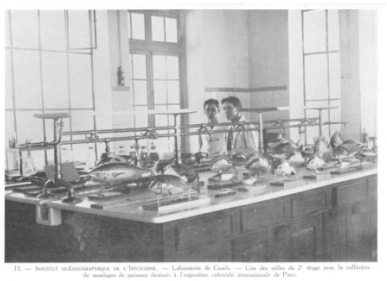

Figure 2. Institut Océanographique de L'Indochine: Laboratoire de Cauda La collection de moulages de poissons destinés à l'exposition coloniale int ernationale de Paris.

Figure 3. Vietnam Institute of Oceanography.

II. VNIO's Library's Historical Collection

The historical and sometimes rare collection of oceanographic materials includes over 83 collections (284 volumes/books) published between 1879 and 1924, as well as eight journals published between 1802 and 1956.

Many of these books have valuable historical information concerning maritime Southeast Asia and other parts of the world. For example: the *Siboga Expedition*, a Dutch scientific, zoological and hydrographical expedition to Indonesia from March 1899 to February 1900; *The Fishes of India: being a natural history of the fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon,* written in 1878 by Francis Day, an Inspector-General of Fisheries in India and Burma and a pioneer ichthyologist who first described over 300 marine and freshwater fishes of British India; *Voyage autour du monde par les mers de l'Inde et de la Chine de la corvette de sa Majest La Favorite execute pendant les années 1830, 1831, 1832 sous le commandement de M. Laplace*; etc. Texts like these have been a valuable source of information to marine biologists at VNIO and visiting international scientists.

These old, unique and sometimes rare books are a treasure in our library as well as being important to the history of oceanography. However, with the passage of time, extreme heat, insect attacks and lack of preservation, many of these books have been damaged and are in danger of decomposition.

III. Factors Contributing to the Deterioration of the VNIO Historical Collection

The following factors contribute to the deterioration of materials in the VNIO Library:

- Environmental and biological factors:
  - Heat, humidity and moisture. Vietnam has a tropical monsoon climate that also influences variations in tropical humidity. In general there are two seasons in Vietnam: the cold season from November to April, and the hot season from May to October. Every year there are approximately 100 rainy days with an average rainfall of 1,500 to 2,000 mm. The humidity is about 80 percent. There are about 1,500 to 2,000 sunny hours and an average solar radiation of 100 kcal/cm^2 in a year. The annual average temperatures range from 22 degrees C to 27 degrees C (37 degrees C in the summer).
  - Light. The VNIO Library has many windows, and light directly affects the books.
  - Cement, coal, dust. The VNIO Library is near a cargo port. In the summer when it is very hot, we must open the windows, so coal and cement dust from the port drift through the windows.
  - The high heat causes dehydration of cellulose fibers in the books and the paper becomes brittle. The paper loses its flexibility to the extent that it crumbles to the touch. The high temperature combined with the high humidity creates a perfect condition for the growth of molds and termites. The moisture caused by humidity weakens adhesives and makes the book bindings loose. It also weakens the sizing elements of the paper and causes a spreading of the ink.
- Human and Chemical Factors:
  - Prior to digitizing these books, the taxonomists physically handled the books during classification of marine plants and animals in the laboratory. The books deteriorated due to exposure to seawater, formalin, and alcohol in the specimen containers.

IV. Lessons Learned

We have learned to limit the environmental factors and biological factors by using many fans to circulate the air and reduce the temperature and humidity. We have also begun to spray pesticides to protect against termites and other vermin.

We have not been able to change human behavior. Scientists still handle reading materials in the laboratory during the classification of samples since they need the books to compare specimens.

Organizations	Year	Sponsors	Objectives/Activities/Results
British Council in Vietnam	1997 - 1998	4 air conditioners 2 air dryers 2 vacuum cleaners 2 PC's 1 Flatbed scanner HP ScanJet 4C – A3	-Reduce negative environmental factors for preservation of rare books -Digitize *The Voyage of HMS Challenger* (vols. 1-12: 20 books) (*)
The Royal Danish Embassy in Vietnam And the Danish International Development Agency *(*DANIDA*)* in Vietnam	1997 - 1998	1 new building (1 floor) near old library building	-Opening of reading room -New place for precious books
Scripps Institution of Oceanography	2001	1 PC 1 Flatbed scanner HP ScanJet 2410 - A4 100 CD - ROM	-Digitize *The Voyage of HMS Challenger* (vols. 13 - 32: 30 books) (**) Result of Digitization of *The Voyage of HMS Challenger: (*) & (**)* -32 Volumes (50 books) digitized stocked in USB and CD – ROM -Contains (file image): 32.386 files Bitmap; Size on disk: 3.98 GB - Contains (file image transferred in file PDF, 1 file PDF = 1 book): 50 files PDF; Size on disk: 453 MB Resolution (DPI): 150 Picture type: Colour
Vietnam Academy of Science and Technology	2008	4 PC's 1 Camera Canon PowerShot SX 100IS 1 Flatbed scanner HP Scanjet G4010-A4 1 USB 12 GB 1 USB 500 GB	Digitized T*he Siboga Expedition 1894-1900 (1902-1950).* 40 books digitized, stocked in USB Contains: 163 filed PDF (40 books) Size on disc: 3.03 GB Resolution (DPI):200 Picture type: Colour

Table 1. Sponsors from 1997-2008.

Lessons Learned From the Digitization Of Two Collections:

The digitization of the collection of *The Voyage of the HMS Challenger* utilizing a normal flatbed scanner sometimes made the book covers and binding of the books break and pages crumble. Because of this, we used a digital camera for the digitization of the collection Siboga Expedition 1894-1900. We made a stand for the digital camera that worked like an overhead scanner. By doing this, we avoided breaking the covers and spines of the books. However, the quality of the files canned by this camera is not good.

Sponsorships 2009-2012

With the support of the IOC, IODE OceanTeacher program, three VNIO librarians and staff members attended the following OceanTeacher courses:

- **Digital Asset Management, October 2-7 2009:**
  The Digital Asset Management (DAM) Workshop gave participants the opportunity to explore a wide array of topics typically associated with a DAM infrastructure. Topics relevant to content creation, asset management, and dissemination were presented during the workshop. Over the course of four days, participants had the opportunity to evaluate each topic area presented and develop a concept model based on the needs of the aquatic and marine science community. Several case studies were presented throughout the course and participants working in groups interacted with others with similar asset management needs.
- **Preservation and Archiving of Digital Media, March 22-26 2010:**
  Libraries traditionally have formed a preservation safety net for materials that will be transmitted to subsequent generations of information seekers and scholars. For paper-based documents, provision of adequate storage conditions was the best means to help ensure that materials would remain readable far into the future. With the advent of digital technology, many knowledge creators do their work on computers. Some of that knowledge may be printed on paper, but much of it, particularly databases, geographic information, scientific data sets, and websites, exists only in electronic form. At the same time, traditional forms of publications have changed significantly and, as a result, create new challenges. For example, publishers of electronic journals license their content to libraries, but libraries do not own that content and they may not have rights to capture digital content to preserve it.
  This course examined these questions and provided an introduction to the metadata needed for a digital environment, terminology, cross walking, harvesting, interoperability and metadata frequently used to describe digital collections. Practical hands-on exercises were included. Through a combination of lecture, case studies, and interactive sessions, students learned about the long-term preservation requirements of digital assets.
- **Disaster Planning, Preparedness, and Response, July 01-07, 2010:**
  This course introduced students to various tools and techniques for dealing with damage caused to library resources from accidents due to natural disasters or human error. Preparedness is of utmost importance in the event of a disaster, large or small. Students learned the fundamentals of emergency planning, wrote a disaster plan and learned about other preparations for protection of collections. Participants learned how to air dry wet books and other library materials, conduct a building risk assessment, use protective measures for collections such as boxing, store backup tapes off site, correct shelving techniques, and deal with mold. Students also participated in a table-top disaster response exercise.
- **Data Curation For Information Professionals and In-Depth Digitization Practicum, September 26-30 2011**:
  Learning Outcomes/Goals:
  - Students will have an advanced knowledge of the current landscape in data curation. Students will understand the e-science mandate and life-cycle and their possible future role in this.
  - Students will have the skill to create an appraisal guide tailored to their particular work place and basic skill in writing data citations in various formats.
  - Students will have the skill to digitize a document and create data citation and deposit to a Repository.
- **Preservation of Books and Other Media, May 21-25, 2012**:

Students learned how to establish preservation practices in a library with limited staff and budget. The course covered responsible stewardship of collections, integration of preservation into daily activities, maximizing limited resources, establishing priorities, and advocacy. Topics included appropriate care of books, papers, photographs (traditional & digital), film and other non-print items. Students learned methods for providing preventive care, including good storage conditions, housing of materials, emergency planning, and careful handling of collections; to identify preservation needs and set priorities; reformatting options including microfilm, paper to paper, and microfilm and paper to digital; and about fundamentals and challenges in preserving digital content. Hands-on activities included mending a book, cleaning a manuscript, and flattening documents. The final project was a written preservation plan for a collection in the student's library.

- **Grantwriting for Digital Projects 2012**:
  Participants learned how to prepare strong grant proposals. Elements of general proposal writing were discussed: mission, purpose, budgets, partnerships, timelines, the value of pilot projects, possible sources of funding, consideration of continuity of project through permanent funding, how to establish priorities, distill essence of their needs in proper format. A bibliography of resources was provided. Examples of weak proposals were presented and critiqued.
  A very practical draft grant proposal was constructed for future use. Students learned methods:
  - To identify the elements of a grant proposal as it relates to their own needs.
  - To locate appropriate sources of funding, including international sources.
  - To follow funders' style and format.
  - To write a well supported and well thought out proposal.
  - To identify a weak proposal.
  Course final product: a draft grant proposal and advocacy presentation

Mission Of Mrs. Linda Pikula & Prof. Nancy E. Kraft At Viet Nam Oceanography Library In February 2012:

In February 2012 the IOC, IODE sent Mrs. Linda Pikula, NOAA and Chair of the IOC, IODE Group of Experts on Marine Information Management and Professor Nancy E. Kraft, Director of the University of IOWA Library Preservation Department (both OceanTeacher Instructors) to Nha Trang, Vietnam VNIO to inspect the historical book collection and general collection, and guide us in conservation, preservation and disaster management techniques. Prior to visiting VNIO, an Excel spreadsheet of the historical collection had been assembled by Dang Thi Hai Yen, Librarian at VNIO.

Ms. Pikula conducted an “environmental scan” on the collection in 2011, indicating which books in the VNIO historical collection had already been digitized and made available on the Internet by other libraries. The spreadsheet was annotated to show the number of other libraries holding these titles. Many of the VNIO titles were not held by many other libraries; 28 titles were held by fewer than 10 other libraries, 23 titles were held by three or fewer other libraries. Forty-nine% of the titles were not digitized and were not available on the Internet in 2011**.**

Digital access to the remaining 51% of the VNIO historical collection is available through some digital projects, including the Internet Archive, Biodiversity Heritage Library, Google Books, Linda Hall Library, National Library of Australia, Scripps Institution and the Hathi Trust. Although “[u]sers affiliated with HathiTrust partner institutions are able to download full-PDFs of all public domain works, and works made available in under Creative Commons licenses … Users who are not affiliated with HathiTrust partner institutions can download [only] single-page PDFs of all public domain works, full-PDFs of works made available under Creative Commons licenses, and

full-PDFs of public domain works that are not subject to third-party agreements …. There is significant overlap of volumes in HathiTrust and Google Book Search and if a book is 'full view' in HathiTrust, it is possible that a PDF of the entire book can be downloaded from Google Book Search. "

During the visit by Ms. Pikula and Ms. Kraft the following were demonstrated:

Proper Book Care:

- Cleaning methods for books.
- Removal of books from shelf by gripping both sides of the spine in the middle of the book (pushing neighboring books on both sides to get a good grip) instead of tugging at the top of the spine.
- Not forcing a book to lie open to 180 degrees, but instead propping up the covers of an open book to decrease the opening angle.
- Not using paper clips, "dog ear" folding or acidic insets to book mark pages.
- Not using rubber bands, self-adhesive tape, or any kind of "leather dressing" or glue on books.



Figures 4, 5 & 6. Prof. Nancy *E. Kraft* teaching Ms Yen *the cleaning methods for books,* and *not forcing a book to lie open to 180 degrees* for displaying.

Good Storage Significantly Prolongs the Life and Usability of Books and Includes:

- A cool room temperature, relatively dry with about a 35% relative humidity, clean and stable environment. Avoid attics, basements, and other locations with a high risk of leaks and environmental extremes.
- Select temperature and humidity appropriate to your climate zone 25 degrees C or lower (cooler is better); between 30-60% relative humidity.
- Minimal exposure to all kind of light; no exposure to direct or intense light.
- Distance from radiators and vents.
- Shelve books of similar size together so that the faces of the covers are maximally supported by the neighbors on each side.
- Keep upright shelved books straight and not leaning. Storing books lying flat is also good.

Digital Considerations:

- Plan carefully, establish your metadata, copyright/intellectual property rights.
- Identify the standards and best practices you plan to follow.

- ALCTS Guidelines: Recommended Minimum Capture Summary as a quick reference guide: http://www.ala.org/alcts/resources/preserv/minimum-digitization-capture-recommendations
- NARA is less of a quick-reference: Information on Textual, Micrographic and Cartographic Records, Posters and Illustrated Materials: http://www.archives.gov/preservation/products/reformatting/text-cart.html
- Do a test run, make a few scans and test the scans out.
- Determine where the original, archival capture will be stored.
- For oversized, fragile materials, it is best to capture the image with the book face-up.
- With a limited budget, a camera mounted on a copy stand along with appropriate lighting will work.
- The ideal is to use a camera that will capture image as a raw or tiff image, at 400-600 dpi/ppi.
- Always save original photo or scan; edit from a duplicate of your original scanned image.

Rare Book Room Considerations:

- If possible, select an internal room. An internal room will help buffer from outside temperature and humidity and will make it cheaper to maintain a good environment
- Select temperature and humidity appropriate to your climate zone –25 degrees C or lower (cooler is better); between 30-60% relative humidity. Since Nha Trang tends to be hot and humid, 50-55% relative humidity is best with 20 degrees C.
- If air conditioning is too expensive, then focus on an internal room that gets good circulation, is in the "cooler" part of the building.
- The room should be without windows and well ventilated.
- Shelving should be metal or, if wood, lined with heavy, archival paper.
- Storing books in archival boxes will give added protection.
- Include a table for study and research.

Making Archival Boxes for Historical and Rare Books

Ms. Kraft and Ms. Pikula instructed the Librarians at VNIO in how to measure the books for the proper construction of archival storage boxes for the collection; the boxes would be hand made at the University of Iowa Libraries in the United States and shipped to the VNIO Library. Twenty-five archival boxes were shipped in September 2012 to Nha Trang from the University of Iowa Library, Preservation Department.

Figure 7. The University of Iowa Libraries USA sent archival boxes to Library of Viet Nam Institute of Oceanography on September 2012.

Figure 8. Ms. Yen is cleaning old books before storage in archival boxes.

Previous and Subsequent Funding Efforts to Digitize the VNIO Historical and Rare Books
While visiting Nha Trang, Ms.Kraft and Ms. Pikula also visited the Vietnam State Archives in the mountains of Dalat. UNESCO had previously funded the restoration of Vietnamese tablets, and a partnership with Dalat discussed for VNIO. Local Nha Trang colleges also discussed whether there could be a partnership in digitizing with VNIO.

After the first OceanTeacher course on Preservation and Digitization, a presentation was made by Ms.Pikula at the Aquatic Sciences and Fisheries Abstracts Board meeting in Morocco in 2010 to develop a digitization partnership between IODE and ASFA developing country members and the ASFA Grants process. Another presentation by Ms.Kraft and Ms.Pikula was made during the 38th IAMSLIC Conference in Anchorage, Alaska 2012 to present the Vietnam VNIO preservation and digitization project.

Yen Dang prepared a Grant Proposal for the Elsevier Grant**:** Viet Nam: the Program Innovative Libraries in Developing Country 2012 (but this proposal wasn't selected).

Future Projects:
The VNIO Library is now planning to set up The Rare Book Room. These old books introduce the spirit and the history of Oceanography. However, we have limited knowledge regarding the restoration as well as preservation and digitization of this collection and need professional help. We look forward to international cooperation to maintain the historical and rare books.

A Suggestion: Many old books on oceanography have been digitized and archived in different digital libraries. These marine reference materials are very useful for biologists, geologists and especially for taxonomists. Therefore, in my Opinion IAMSLIC should create a directory/bibliography for old books on oceanography that have been digitized from all different sources. These digitized marine reference materials are very useful for biologists, geologists and taxonomists.

http://libraries. ucsd.edu/locations/sio/scripps-archives/index.html
http://celebrating200years.noaa.gov/rarebooks/welcome.html
http://biodiversitylibrary.org
http://archive.org
http://hathtrust.org

The pictures in the visit of Mrs. Linda Pikula & Prof. Nancy E. Kraft at Viet Nam, 2012

Before planning to make archival boxes for the collections of rare books not yet digitized:

- Martini, F.N.Q., 1769-1795. *Revues Schematiques Conchylien Cabinet. Rurnberg* (14 volumes);
- Siebold, F. D., 1833-1850. *Fauna Japonica* (4 volumes);
- Day, Francis, 1878. *The Fishes of India* (2 volumes);
- Edwards, H.M., 1857-1860. *Histoire naturelle des Coralliaires ou Polypes Proprement Dits* (3 volumes).

Figure 9. VNIO librarians, Mrs. Linda Pikula & Prof. Nancy E. Kraft checking list of old books.

Figure 10. Books: Siebold, F. D., 1833-1850. Fauna Japonica *(4 volumes).*

Figure 11. Books: Day, Francis (1878), The Fishes of India *(2 volumes).*

Figure 12. Mrs. Linda Pikula & Prof. Nancy E. Kraft checked and measured each book.

Figure 13. Each book had to be measured in several places to find the highest, widest deepest part in order to know how large to make each box.

Figure 14. The rare books in archival books made by the University of Iowa Libraries, USA.

Session 7: Preservation: Special Collections
Moderator: Samuela Nakalevu

DIGITAL PRESERVATION OF HISTORICAL FISHERIES INFORMATION IN UGANDA: THE ROLE PLAYED BY NaFIRRI LIBRARY

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Abstract:
The National Fisheries Resources Research Institute (NaFIRRI) Information and Data Centre has been engaged in digital preservation of information for quite some time. It serves as a hub for fisheries Information in Uganda. The Centre houses research information by early scientists in the areas of fisheries, aquatic environment, aquaculture, socioeconomics of all the small lakes and rivers in Uganda. The library has been involved in the process of digitizing this information since 2009. The paper highlights the achievements to date and the benefits the library has received from digital preservation, and discusses the methods it has adopted for **st**orage and dissemination of fisheries historical Information through the various networks.

Keywords: Digital preservation, storage, historical fisheries information, Uganda, libraries.

Introduction

The National Fisheries Resources Research Institute (NaFIRRI) Information and Data Centre has been engaged in digital preservation of information for quite some time. It serves as a hub for fisheries Information in Uganda. The Centre houses research work by early scientists in the areas of fisheries, aquatic environment, aquaculture, socioeconomics of all the small lakes and rivers in Uganda. The library has been involved in the process of digitizing this information since 2009. The Library/Information Centre is the heart of the Institute, because it contains all the reports from the time of its establishment to date. The main aim of the library is to preserve and conserve digital information for access in the current and future generations to come. The functions include:

1. Information acquisition and processing.
2. Documentation of information.
3. Re-packaging information.
4. Dissemination of information to stakeholders.
5. Preservation of fisheries, water environment and aquaculture information.

Digital preservation of Information is the organization and management of digital Information and data to enable easy access over time.

According to Library of Congress, communications are no longer material, they are digital and dependent on technology to make them accessible. As new technology emerges and current technology becomes obsolete, we need to actively manage our digital possessions to help protect them and keep them available for years to come. Harrod's Librarian Glossary defines digital preservation as the method of keeping digital material alive so that they remain usable as technological advances render original hardware and software specification obsolete. Digital preservation is referred to as the managed activities necessary to ensure continued access to digital materials for as long as necessary (Digital Preservation Coalition, 2008). Nirmal Kumar (2014) views preservation as the means by which the documentary heritage is handed down to future generations, while at the same time being made available to current users. Past, present and future are the keywords of preservation. Hedstrom (1998) defines digital preservation as the planning, resource allocation, and application of preservation methods and technologies necessary to ensure that digital information of continuing value remains accessible and usable.

According to Pamela Q.C. Andre et al. (1996), early attention to preserving digital information focused on the longevity of the physical media on which the information is stored. Even under the best storage conditions, however, digital media can be fragile and have limited shelf life. Moreover, new devices, processes and software are replacing the products and methods used to record, store, and retrieve digital information on breathtakingly short cycles of 2 to 5 years. Libraries, archives, museums and other organizations are challenged to learn about this new information environment as they take on the job of keeping digital materials alive for the next generation. Digital technologies have changed the way people communicate and learn about the world around them.

Digital continuity means ensuring digital information is managed well so that it can be accessed and used over time. One important aspect of digital continuity is preservation, which requires a proactive program to identify records at risk and take necessary action to ensure their ongoing viability.

The library defines the primary objective of digital preservation activities as maintaining the ability to meaningfully access digital collection content over time. As well as collecting digital materials and managing them for current access, the library has a mandate and commitment to preservation and has been active in developing infrastructure to collect, manage, preserve and keep our digital collections available into the future.

Medium Of Storage Of Digital NaFIRRI Information

The digitized information has been stored on CD-ROMS, electronic board, tapes, and computers.

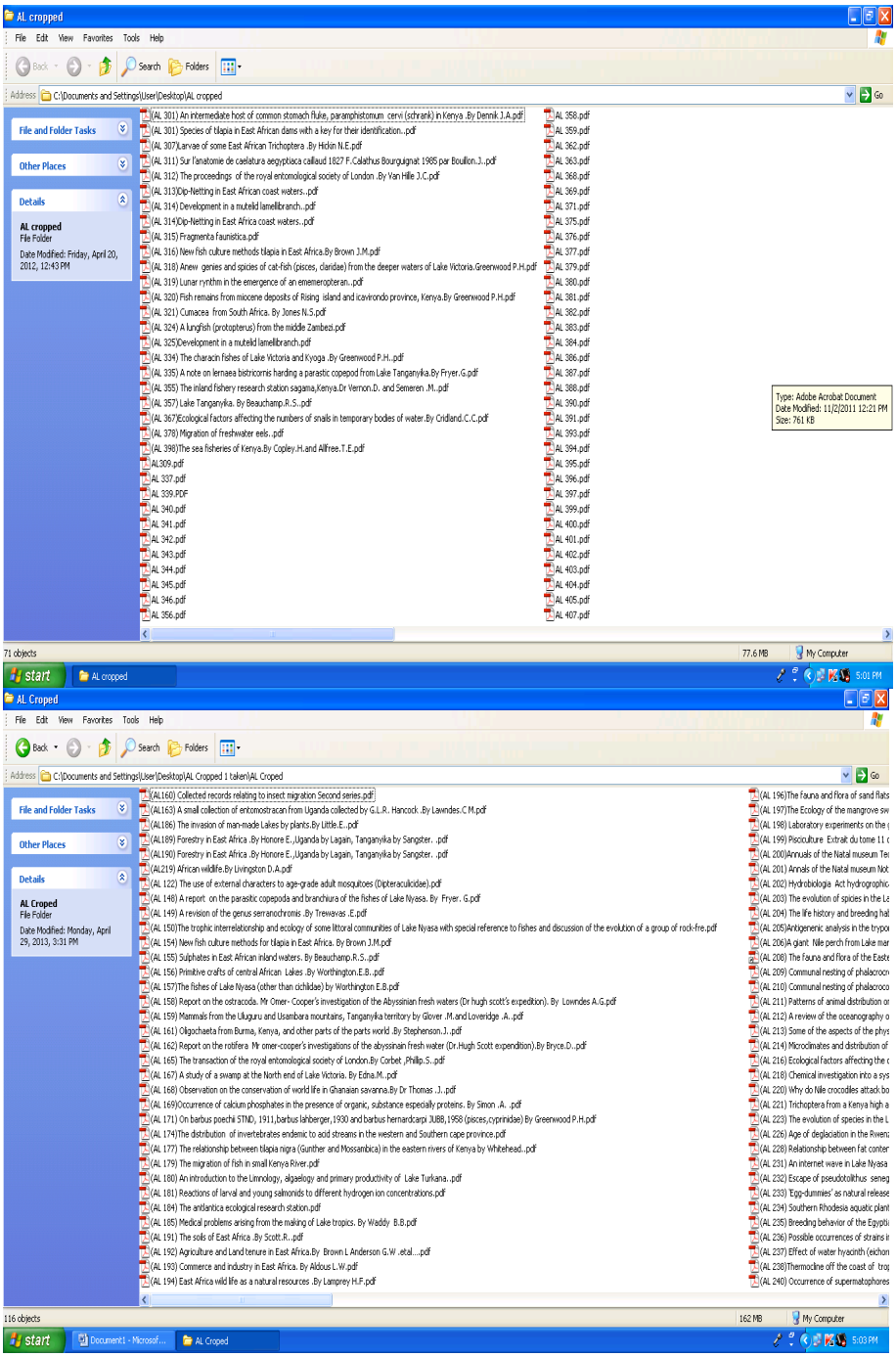

Table 1. Digitized African Lakes Literature.

Achievements In Digitization By NaFIRRI Library

1. Works by Early Scientists in the East African Freshwater Fisheries Research Organization.

a) Greenwood Collections: Peter H. Greenwood was one of the early scientists in the then East African Freshwater Fisheries Research Organization. He did extensive research in the lakes and rivers of Uganda. The library has digitized 108 titles that are available for use by scientific community.

b) Worthington collections: We have been able to digitize 15 papers of Worthington that are available internationally.

c) Holden collections, Corbet and Beadle collections
d) Ruaha River: The library has been able to digitize one paper by an early scientist on the Ruaha River.
c) Holden collections**:** One report has been digitized
d) Corbet report on the food of non-cichlid fishes in the Lake Victoria 1960 (100 pages).
e) Beadle collections**:** One report of 170 pages has been digitized.
e) River Nile Collections: The library has a huge collection of early research done on the river. Eight copies of these reports have been digitized. The library acknowledges the fact that this literature must be made available to the scientific community.

2) Digitization Of Historical Maps and Books In Partnership With National Library Of Uganda
In 2010, in partnership with the National Library of Uganda, the Library was able to digitize 345 copies of historical maps. These have been stored on CD-ROMs and are available for use by scientists and the general public. However, we are unable to place all these on our website since we don't own the copyrights.

3) Lake Victoria Environmental Management Project (LVEMP) collections: 465 copies of these reports have been digitized and are now available for access by the local public and international community at our website: http:/www.firi.go.ug.

4) Lake Victoria Reprints
Between 2009 and 2013 the library scanned 535 Lake Victoria reprints (historical information). These have been uploaded for scientists to access internally. The E-board runs on the LAN within the Institute.

5. EAFRO reprints
A total of 472 reprints and annual reports have been digitized and are awaiting upload onto the E-board.

6. EAFFRO Annual Reports
We scanned 35 Annual Reports from 1948 to date that have been uploaded to our website.

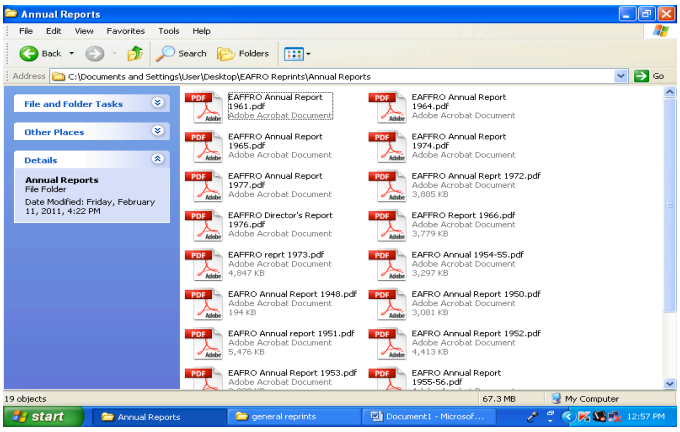

Table 2. Screenshot of the EAFFRO Annual Reports.

7. EAFFRO reprints
A total of EAFFRO 207 reprints have been digitized and are awaiting upload onto the E-board.

8. Fish In Press Collections
The Library digitized Fish in press collections that included articles appearing in newspapers about fisheries in Uganda.

9. UFFRO Reprints
We have digitized 12 copies of the Uganda Fresh Water Fisheries Research Organization Reprints and these are waiting to be uploaded on the Electronic board.

	No. Digitized
Early Scientist Collections	126
African Lakes	199
Historical Maps	84
LVEMP reports	122
Lake Victoria Reprints	435
EAFFRO reprints	207
EAFFRO Annual Reports	35
UFFRO Reprints	12
River Nile	8
Sagana Reprints	27
Total	**1255**

Table 3. Digitized Historical Information.

Benefits the Library Has Received From Digitization and Preservation
1. Scientists and stakeholders can now access copies of historical scientific papers from one collection.
2. We have been able to share information easily and quickly through Z39.50 when requested by stakeholders through email and the E-board.
3. We have been able to reach a large clientele with digital information.
4. There is now a longer, stronger shelf life for historical information.

Figure 1. The processing unit for digitization.

Medium of Storage Of Digital NaFIRRI Information

Figure 2. The digitized information has been stored on CD-ROMS, Electronic board, tapes, and computers.

Challenges

1. Sometimes the E-board breaks down and scientists cannot access digital information from their desks. When this occurs they have to call for hard copies of documents.
2. We have information that was stored by early scientists on microfiches and currently we don't have a microfiche reader to access this information.
3. We have some information that was stored earlier on diskettes (big disks) and these cannot be accessed with current computers. Over time, physical storage media like data formats, hardware and software have become obsolete, posing significant threats to the survival of the content.

According to Ross and Hedstrom (2005), current approaches to digital preservation and curation are limited. They are labor intensive. They depend upon awareness of many types of risks, including technology obsolescence, deliberate alteration, interruptions in management and funding for curation, and incompetent handling.

Figure 3. Some of the old storage media.

4. We have a scanner on which documents above A4 cannot fit. This means that bigger documents such as maps and larger books cannot be scanned. Many times we have them scanned out of the institute, creating additional budgetary constraints.

Conclusion

In conclusion, the Library's digital collections are expected to continue growing. Many lots of historical information and data wait to be digitized. Although access to digital resources is threatened by many challenges, however, the benefits outweigh the challenges. The electronic digital resources should continue to coexist with the hard copies. The hard copies of documents come in to fill up the gap in case technology fails.

References

Pamela Q.C. Andre et al. (1996). Report of the Task Force on Archiving of Digital Information, commissioned by The Commission on Preservation and Access and The Research Libraries Group.

Uluocha, Anyaogu. (2014). Imperatives for Storage and Preservation of Legal Information Resources in a Digital Era. *Information and Knowledge Management* 4(5). http://www.iiste.org/Journals/index.php/IKM/article/view/12905.

Prytherch, Raymond John. 1990. *Harrod's librarians' glossary of terms used in librarianship, documentation and the book crafts, and reference book*. Aldershot, Hants, England: Gower.

East African Fisheries Research Organization (EAFRO) (1948). *Annual Report 1948*.

Day, M. (2006). The long-term preservation of web content. *Web Archiving.* Berlin: Springer, 177-199.

Digital Preservation Coalition (2008). Introduction: Definitions and Concepts." *Digital Preservation Handbook*. York, UK. http://www.dpconline.org/advice/preservationhandbook/introduction/definitions-and-concepts.

Hedstrom M. (1998) Digital preservation: A time bomb for digital libraries. *Computers and the Humanities* 31, 189–202.

Nirmal Kumar, B. (2014). The case for digital preservation of the press and audio-visual documents in Mauritius. *Global Journal of Commerce and Management Perspective* 3(2), 27-32.

Ross, S. Hedstrom, M. (2005). Preservation, research and sustainable digital libraries. *International Journal of Digital Libraries* 5, 317–324 .

Session 8: Disaster Planning and Recovery
Moderator: Kris Anderson

TYPHOON YOLANDA: ITS IMPACTS TO THE LIBRARIES IN NORTHERN PANAY, WESTERN VISAYAS, PHILIPPINES

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Abstract:
The paper documents the impacts of typhoon Yolanda to the academic libraries in Northern Panay, Western Visayas, Philippines. It also discusses the level of knowledge of the library staff on disaster management and their disaster preparedness and recovery efforts. The factors that contributed to the extent of damage to libraries and their collections and the lessons which the librarians have learned in the disaster were also discussed.

Keywords: Academic libraries, conservation and restoration, emergency management, library materials, Philippines, typhoon Yolanda, typhoons.

Introduction

The Philippines, one of the top three global disaster risk hotspots (Mucke, 2012), is experiencing an average of 19 to 20 typhoons annually (De Vera, 2013). However, in 2013 25 entered the country, surpassing the annual average. Of the 25 typhoons, 11 made landfall, and of these, seven hit Visayas or Mindanao area, one of which was typhoon Yolanda (international name Haiyan), dubbed as the strongest typhoon in the Philippine history. On November 8, 2013, typhoon Yolanda made six landfalls in the islands of Samar, Leyte, Cebu (Daanbantayan and Bantayan), Northern Iloilo and Palawan respectively (NDRRMC, 2014). Thousands of people perished and billions of pesos worth of agriculture and infrastructures were damaged. Other than houses, health facilities and roads or bridges, hundreds of schools as well as their libraries were greatly affected.

The Philippine Climate Change Commission (PCC) acknowledged that the typhoon belt of the Philippines has shifted to Visayas region from northern Luzon (Fernandez, 2014). Filipinos must always be prepared for the worst, not just to save lives and properties but also to preserve societal treasures for the use of future generations. Libraries, as the depositories of knowledge and information, must safeguard their collections by any possible means. However, when typhoon Yolanda hit, the majority of the collections of the libraries in the affected areas were greatly damaged due to unsecured library structure or storm surge, a reality that reflects the current state of most libraries in the country.

To assess the impact of typhoon Yolanda to the libraries in Northern Panay, Western Visayas, Philippines a survey was conducted to twenty-two academic libraries, nine from Northern Iloilo, seven from Capiz and six from Aklan. Figure 1 shows the location of the respondents, and the extent of damage is indicated by different color gradients.

The study aims to identify the level of knowledge of the library staff on disaster management; the disaster preparedness and recovery efforts of the library staff; the factors that contributed to the extent of damage to libraries and their collections; and the lessons learned by the librarians in the disaster.

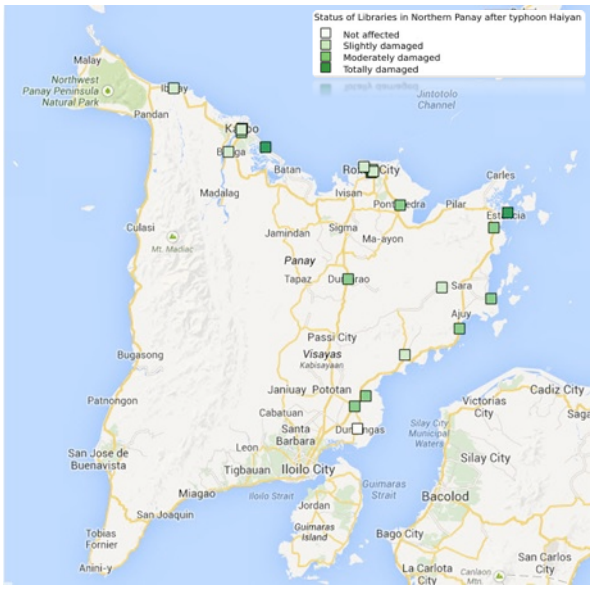

Figure 1. Map of the Panay Islands. The square marks in different color gradients indicating the location of the respondents, and the severity of the damage caused by typhoon Yolanda. Map generated thru Google Earth.

Methodology: Data Collection

Using an eight-part survey instrument, head librarians, officers-in-charge or senior staff of 22 libraries were identified, surveyed and interviewed in April 2014. The survey instrument contained questions about demographic characteristics; information on the library and its environment; disaster management and preparedness; impacts of typhoon Yolanda; post-typhoon responses; recovery efforts; and lessons learned.

Prior to the survey interview, the respondents were contacted through e-mail, Facebook or text message. The instrument was e-mailed to some respondents to save time during the data gathering. Facebook, text messaging and telephone calls were also used to follow-up some of the respondents whose answers needed further clarifications. Visual inspections of the damaged library buildings and affected library collections were also conducted.

Results and Discussions

The Libraries and Their Personnel

Of the 22 libraries, 77% are government funded universities and colleges, while the remaining 23% are privately owned; of the 22 libraries 27% offer fisheries courses. It is worth noting that despite the active effort of the Philippine Board for Librarians (BFL) and the Philippine Librarians Association Inc. (PLAI) on the professionalization of Philippine librarianship, 23% of the surveyed libraries were manned by a non-licensed/paraprofessional staff. Only 27% of them were manned by a librarian with Masters degree in Library and Information Science.

Training the staff on disaster management plays a significant role in libraries, as staff will enable the implementation of the disaster management plan (Kaur, 2009). However, in the case of the respondents to the study only 50% of the libraries have at least one staff twho has undergone training and/or attended seminar/s on disaster management. The majority of library personnel lack awareness regarding disaster management, and this is the main reason for the failure of the implementation of a disaster management plan (Lyall, 1996). Generally, library staff lack training not because they don't want the additional responsibility, but rather because they lack support from their administrators. Unsupportive management was very common among the libraries because of the lack of financial resources (Kastagiolas, 2011) and because the library is the lowest priority.

The Libraries and Disaster Management

According to Khan (2012), disaster response plans "will enable the disaster response team to implement response and recovery procedures as quickly as possible based upon well-thought-out priorities and techniques." Libraries are the storehouse of knowledge, and being prone to hazards or disasters such as fire, water, vermin and molds etc., must implement one. However, only 18% (4 of 22) of the respondents have a written disaster management plan. Most of the reasons for the non-existence of a disaster management plan other than lack of training were lack of human and financial resources for the implementation of the plan, while some said that there is no perceived risk (Table 1).

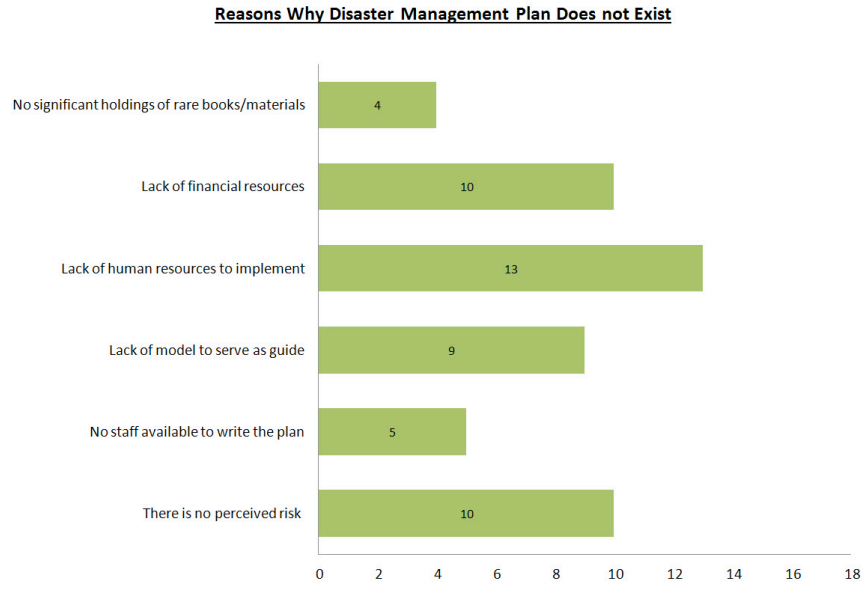

Table 1. Common reasons for the non-existence of a disaster management plan among 18 libraries.

Although the majority of the libraries do not have disaster management plans, all of them have disaster management practices. Most common are organized drills and exercises in case of disaster, an updated

telephone tree and labeling of the collection indicating priorities to be salvaged in case of disaster (Figure 2).

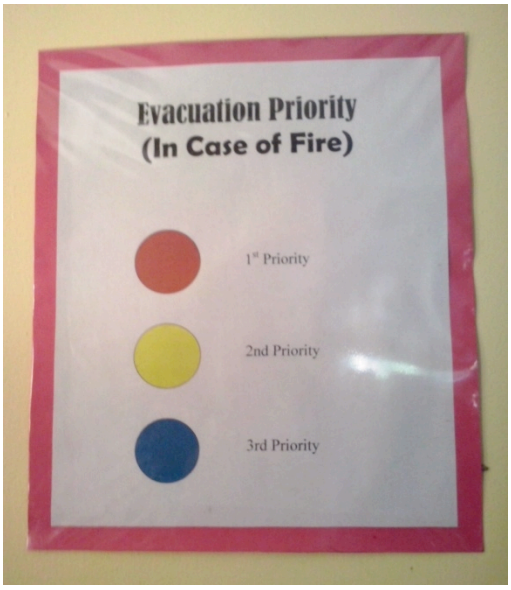

Figure 2. A label indicating evacuation priority in case of disaster, a common practice among the libraries. Photo by D.L. Superio.

Typhoon Yolanda and the Libraries

A strong physical structure is always an advantage - 59% of the libraries are built of concrete materials, while the remaining 41% are made of a mixture of concrete and wood. The majority are in the capital city, 100 meters or more away from the shoreline. There are two libraries that are 25 meters or less nearer to the shoreline, and these two libraries were greatly affected by the typhoon, sustaining severe damage primarily because of storm surge.

Fourteen percent of the respondents declared that their library buildings were totally damaged; almost all of the fixtures were detached or flown, e.g. roofs, windows, etc., which caused water leakage to the library and damaged most of their collection. Thirty-six percent had moderate damage, 45% were slightly damaged, and luckily one was spared.

Three of the libraries suffered almost 70% damage in their collections; 32% declared 20-50%; 36% declared below 20%, and 18% declared that their library collections were not affected. Broken or detached windows, doors and walls that caused water to enter the library were the major cause of the damage. To save the damaged collections, the most common practices were removal or draining of standing water in the library, air-drying of the affected collections inside the library building, opening of the books and positioning them vertically. To hasten the drying process 61% opted to sun-dry some of their collections, which unfortunately caused some books to crumple, and those made from glossy papers stuck together, aggravating the damage to the point that some could no longer be saved. Fifty six percent were able to save at least 50% of their damaged collections while the rest could only save less than 50%.

Fifty-six of the libraries followed guidelines/standards in the disposal of their damaged collections. Those standards are prescribed in the Library Manual and by the Philippine Commission on Audit for

Government funded libraries. The major reasons for the disposal of the library materials were infestation by molds, along with those with glossy/coated pages that stuck together and some color illustrations that bled. Samples of the damaged materials are shown in Figure 3.

Figure 3. Damaged library materials (a) infested with molds, (b) with glossy/coated pages that stuck together, (c) craggy and brittle due to sun-drying, and (d) salvaged collections that were returned back to shelves. Photos by DJ Alian (a, c) and DL Superio (b, d.)

Respondents identified the factors that enabled fast recovery from the disaster. A committed library staff topped the list, while lack of support from the management was the major impediment to the recovery of the other libraries. It was observed that some of the libraries were not yet renovated, with the damaged library collections stored outside the library building in the nearby stockrooms, some in sack bags or in empty boxes, some stacked in some areas outside the library. To enable the libraries to provide for the needs of their patrons. some of damaged collections were returned back to the shelves (Figure 3, item d).

Conclusions and Lessons Learned

Although a disaster may be statistically unlikely to happen, that still does not mean that it will not happen (Cuthbert & Doig, 1994), and therefore libraries and their personnel must always be ready. Having a working disaster management plan is always an advantage as it will guide the library personnel on what to do in preparation for a disaster and afterwards. Hence, library personnel must be educated and trained regularly to safeguard the library collections, therefore ensuring the continuity of services. But this is not the case in the Philippines, in spite of their vulnerability to natural and man-made disasters, since the majority of libraries do not have disaster management plans and are manned by library personnel who do not have enough knowledge and training on disaster management and recovery - resulting in their inability to save huge fractions of their affected library collections.

Despite of the fact that these librarians lack knowledge, they have shown great efforts in the recovery of their libraries and resources. Their lack of knowledge and the scarcity of resources did not limit them in performing their tasks. However, committed library personnel are not always enough without the support of management. Therefore librarians and management must work together to ensure the safety of their libraries and resources and for the provision of quality services to their patrons, not just on or after the disaster but for all of their operations.

References

Cuthbert, S., & Doig, J. (1994). Disaster plans: Who needs them? *Australian Academic & Research Libraries, 25*(1), 13–18.

De Vera, E. (2013, November 07). 20 cyclones visit PH annually. *Manila Bulletin*. Retrieved from http://www.mb.com.ph/20-cyclones-visit-ph-annually/.

Fernandez, R. (2014, January 12). Visayas now Phl's typhoon belt. *The Philippine Star*. Retrieved from http://www.philstar.com/headlines/2014/01/12/1277812/visayas-now-phls-typhoon-belt.

Kahn, M. B. (2012). *Disaster response and planning for libraries* (3rd ed.). Chicago: American Library Association.

Kaur, T. (2009). Disaster planning in university libraries in India: A neglected area. *New Library World, 110*(3/4), 175–187.

Kostagiolas, P., Araka, I., Theodorou, R. & Bokos, G. (2011). Disaster management approaches for academic libraries: An issue not to be neglected in Greece. *Library Management, 32*(8/9), 516–530.

Mucke, P. (2012). Disaster risk, environmental degradation and global sustainability policy. In N. Brodbeck (Ed.), *WorldRiskReport 2012,* 5-9. Germany: Bündnis Entwicklung Hilft.

Philippines, NDRMMC. (2014). *SitRep no. 108. Effects of typhoon Yolanda (Haiyan)*. Retrieved 12 December 2014 from http://reliefweb.int/sites/reliefweb.int/files/resources/NDRRMC%20Update%20-%20Sitrep%20No%20108%20re%20TY%20Yolanda%20-%2003%20April%202014.pdf.

Session 8: Disaster Planning and Recovery
Moderator: Kris Anderson

PANEL: DISASTER PLANNING & RECOVERY

Panel Coordinator: **Daryl Superio**

Invited Panelists:

Lyra Joyce N. Pagulayan
Fishbase Information & Research Group Inc.
Baños, Philippines

Kris Anderson
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No Boundaries: Creating Open Access Repositories for Academic Institutions

To support and celebrate Nova Southeastern University's 50th Anniversary, the NSU Libraries piloted a campus wide project to develop an institution-wide Open Access Repository called NSU Works. NSU's Oceanographic Center (OC) was one of two colleges within the University System asked to participate in the pilot phase of the project. Participation in this phase included establishing hierarchical structures for the collections, adding metadata (in all formats), troubleshooting, and marketing to the OC community. This presentation serves to provide information on this pilot project, identifying the steps required to start an institutional repository at an academic institution, giving a detailed SWOT analysis of NSU Works, and providing information on copyright law as it pertains to open access repositories.

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Interactions of Collaborative Systems for the Dissemination of Research Results - CICIMAR-IPN, México.

We present the Administration System for Academic and Scientific Productivity of Teachers (AmonPro), the Interdisciplinary Center of Marine Sciences, conceived from the beginning for the following purposes: to contain the records of scientific institutions in an organized and available for academic management processes of the Centre; retrieve the information using standard bibliographic and Internet access; give visibility to institutional contributions through the Web; and to achieve closer relations between colleagues and those aspiring to enter graduate programs offered at the Academic Unit. The development was done on a web platform for updating remotely from anywhere on the Internet. It established a Web service for communication with the website of CICIMAR using this protocol for exchanging data between applications, allowing you to post on the official site updated in real time. Bibliographic information is generated in the HTML format required for it to be found by academic search systems such as Google Scholar and Scirus. You can export the information to applications such as EndNote and Zotero as it provides a mechanism to exchange data to any of these bibliographic systems, and even can import bibliographic records through the use of XML files.

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The Importance of Library Associations: How and why IAMSLIC Adds Value to the Library Luis R.A. Capurro Filograsso of CINVESTAV IPN Merida, Mexico..

Professional associations are formal groups of persons working in the same profession for the realization of purposes related to their professional activity. These groups are formed to exchange views and learn from each other. They offer a range of services and programs for staff and member institutions such as jobs vacancy services; continuous professional development; conferences; studies of wages and employment conditions; publications; sharing of experiences; norms (standards); library advocacy interests; and library science research. The International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC) adds value to the library of CINVESTAV Merida, Mexico primarily by facilitating resource sharing among member libraries worldwide, as well as allowing connections with other institutions at the national level. The library Luis R.A. Capurro Filograsso has the opportunity to participate in several IAMSLIC projects and the possibility of being the host of its 42nd International Conference in 2016.

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POSEIDON Project: Ocean Science Library Fighting Against Poseidon's Trident, Opening the Future With Knowledge on the Ocean.
Recently, special libraries have been taking creative roles in traditional information services, undertaking production and distribution of information. The Ocean Science Library (OSL) has been running the "POSEIDON Project" under the slogan "Capacity-building through academic publication" to fulfil these needs since the ocean is closely connected to climate and environmental changes. OSL aims to promote the importance of the ocean by using the metaphor of Poseidon, the god of the ocean in Greek myth. Public support is essential, and OSL is developing ocean knowledge contents for the popularization of ocean science. An ocean education textbook was requested by the government, and OSL published the series "Let's be Friends with the Ocean" for elementary/middle school science teachers; digital content is available at http://library.kiost.ac. OSL also analyzed ocean literacy programs from advanced maritime nations such as the United States, Japan, and Australia to create the best curriculum for Korean students; the OSL subject librarian took a leading role in developing the program. OSL has developed various series, including "Dreaming Ocean Book" for youth; currently 25 books have been published and more than 100 books will be added. Other series include "Seeing the Ocean through Science," with photos from scientists' fieldwork; three of these books have been nominated as books of excellence in Korea. "Ocean Science," an introductory series, is gaining popularity among college students and adults in South Korea. OSL is also running the "Science Mecenat Program;" the term "mecenat" refers to supporting activities to specific areas of interest, and OSL's "Moving Ocean Science Classroom" program offers lectures by scientists. OSL has been facilitating close cooperation between subject librarians and scientists to strengthen academic publication and public outreach.

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Myth of the "Digital Native" or Being "Born Digital."
Abstract: Many of us have been inundated with literature telling us how technologically savvy today's students are. This spring I noticed a new trend: people questioning just how well these technological skills are working for students when it comes to research or acquiring new information. I attend our graduate student brown bag presentations and started to also notice a real lack in basic literature searching and research skill. I decided to do some research to see if anyone has evaluated the digital acumen of these Digital Natives and how applicable the claims of neuroplasticity might be to learning style or effectiveness in basic literature searching for research purposes.

Can graduate students perform simple tasks such as opening a pdf attachment in an e-mail; opening a Word or Word Perfect document from a shared server; find a culture method in the literature or database.

Prensky (2001) wrote about "Digital natives, digital immigrants: do they really think differently." On the surface, it appears to be a logical hypothesis; Millennials born after computers started to be commonplace surely must use these tools better than those who have had to transition multiple times with the advances in technology. For a long time people accepted the idea that this new generation was more comfortable and capable in their technology use. Millennials have rarely experienced a loss of data with a misplaced click since much of their experience has been shaped by gaming and social interplay where there is little in the line of negative fallout from errors.

The intervening years since the hypothesis of Digital Natives was employed has produced a plethora of research. The journal *Computers & Education* has been most prolific in its reporting. Some of the data indicate that these students engage technology to stay connected: 78-95% have cell phones; 95% say they consistently use the Internet. They immerse themselves in MP3 Players, videogames, and social media programs. They expect to "click" around for solutions, learning by trial and error as in video gaming (Bates, 2007). Recent survey results (Bennett et al., 2008) show that 99.6% of Millennials use word processing programs; 99.5% email and surf the net for pleasure; and only 21% were engaged in creating their own content and multimedia for the web or were involved in emerging technologies. An astounding 33% did not know the correct description of the bcc email function (O'Neil, 2014).

Librarians can no longer take it for granted that students have learned about basic research or using library online catalogs, online journals or databases as part of their undergraduate education. Librarians should provide information on the exceptional in-depth resources for which their institutions pay and why these specialized databases are important for research. A single error in a culture method could cost students months in research data/time until graduation.

References:

Margaryan, Anoush; Allison Littlejohn; Gabrielle Vojt. (2011). Are digital natives a myth or a reality: University students' use of digital technologies. *Computers & Education,* 56(2), 429-440. DOI: 10.1016/j.compedu.2010.09.004.

Bates, Mary Ellen (2007). "Can I Facebook that?" *Online,* 31(5): 64.

Bennett, Sue; Karl Maton and Lisa Kervin (2008). The "digital natives" debate: A critical review of the evidence. *British Journal of Educational Technology,* 39(5), 775-786. doi:10.1111/j.1467-8535.2007.00793.x

Gurung, Binord and David Rutledge (2014). Digital learners and the overlapping of their personal and educational digital engagement. *Computers & Education,* 77, 91-100. DOI: 10.1016/j.compedu.2014.04.012

Hargittal, Eszter (2013.) The Web Use Project. http://www.webuse.org/pubs/index.html. [Accessed 08/28/2014].

Helsper, Ellen Johann and Rebecca Eynon. (2009). Digital natives: Where is the evidence. *British Educational Research Journal,* 36(3), 503-520. DOI: 10.1080/01411920902989227.

O'Neil, Megan.(2014). Confronting the Myth of the "Digital Native." *The Chronicle of Higher Education (Digital Campus 2014).* http://chronicle.com/article/Confronting-the-Myth-of-the/145949. [Accessed 4/22/2014.]

Parry, Marc (2014). As researchers turn to Google, libraries navigate the messy world of discovery tools. *The Chronicle of Higher Education (Technology),* April 21, 2014. http://chronicle.com/article/As-Researchers-Turn-toGoogle/145081/?. (Accessed 4/22/2014.)

Prensky, Marc (2001). Digital natives, digital immigrants: Do they really think differently." *On the Horizon,* 9(6), 1-6.

Thaler, Valerie S. (2013). Teaching historical research skills to Generation Y: One instructor's approach." *The History Teacher,* 46(2), 267-281.

Thompson, Penny (2013). The digital natives as learners: Technology use patterns and approaches to learning. *Computers & Education*, 65, 12-33. DOI: 10.1016/j.compedu.2012.12.022.

Ng, Wan (2012). Can we teach digital natives digital literacy? *Computers & Education,* 59(3), 1065-1078. DOI: 10.1016/j.compedu.2012.04.016.

Warren, Scott & Kim Duckett (2010). Why does Google Scholar sometimes ask for money? Engaging science students in scholarly communication and the economics of information. *Journal of Library Administration,* 50, 349-372.

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Repository of Documents of Marine Science in Iran 1981-2014.
Scientists, teachers, students and others conduct research in the Caspian Sea, the Persian Gulf and Oman Sea and inland rivers and lakes. The fisheries, aquatic and marine research areas in Iran are marine physics, marine chemistry, aquaculture, ecology, plant and animal aquatic biology, pollution, fish diseases, biotechnology, genetic, fisheries etc., so there are papers, reports of projects, case studies, conference proceedings and theses (B.Sc., M.Sc. and Ph.D.). The information contains general and detailed research results on aquaculture (fish, shrimp, pearl oyster, etc.) and also environmental research carried out in marine, fresh and brackish water. These documents are an important part of the library collection. However, they are processed by different people who don't always follow the same cataloging rules. For instance, they may use subject headings, geographical determinants, descriptors and keywords in the same field. The collection is important for scientists, students, development partners, investors, and resource managers. As a result it is very difficult to access to the information. We will work on the establishment of unifying criteria that permit technical processing of the documents according to the Anglo-American Cataloging Rules (AACR) with updates. We chose the ASFA database for the thesaurus. The main objective of this work is to improve access to information contained in the documents, and to increase global access to the full text documents, which to date has been limited to scientists within Iran, by making them available in PDF format or accessible online via the ASFA or IAMSLIC databases.

ORTIZ, Silverio - *Marine Biology and Fisheries Research Institute Almirante Storni, San Antonio Oeste, Argentina.*
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Implementation of a DAM (Digital Asset Management) Solution: A Proposal From the IBMPAS Library.
Digital assets are valuable for the Marine Biology and Fisheries Research Institute Almirante Storni (IBMPAS). These digitized data are used for specific purposes in the processes of local research. Digital information has been created and acquired during the last decade at the Institution and has relevant importance to the organization's goals and mission. A Digital Assets Management Program will help the organization to preserve, share and distribute digital information through the departments and external environment. Until recently, no cohesive strategy existed at the IBMPAS. This lack of information and collection policies produced duplicated efforts, unsuccessful results in searching and accessing data, and also delays in distribution and publishing processes. This poster will show the developing activities, policies and procedures designed by the IBMPAS Library in order to implement an institutional DAM solution as a crucial stage for preserving, sharing, reusing and providing external access in the future.

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DINARA Library – After Belonging to IAMSLIC
The Documentation Centre and Library of the National Direction of Aquatic Resources (DINARA) in Uruguay has been a member of the International Association of Aquatic and Marine Science Libraries and Information Centres (IAMSLIC) since September 2004, the same year I came to take charge of this Library. The Association facilitates cooperation among its members, services visibility, and integration with partners of marine, fisheries and aquaculture areas. It makes possible exchange of resources through free access repositories, with material produced by researchers, as well as access to the Collective Catalogue and mailing lists of IAMSLIC International and its Latin Group. It enables technical assistance at national, regional and international levels, as well as exchange of experiences. Integrating IAMSLIC represented a breakthrough in

terms of the services provided by the Library, positioning and enhancing of the librarian profession. The vision of DINARA library before and after integrating IAMSLIC is shown through an interview with Dr. Omar Defeo, library user and research scientist at the institution.

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Asia and the Pacific Networks for the Exchange of Information and Experiences for Marine Fisheries Development

Asia and the Pacific represent the most important region for fisheries and aquaculture production since a number of states have the highest per capita consumption. Fishery commodities play an important role in reducing poverty, hunger and malnutrition and providing employment, income, food, and international trade. The region is the world's largest contributor to world aquaculture, producing 46.9 million tons – 91% of global aquaculture production. Even when aquatic plant production is excluded (the vast majority of which originates in the Asia-Pacific area), the region still remains dominant, representing 89% of global aquaculture production by quantity. It has a high rate of food fish consumption, estimated at 29 kg per person per year, though the source of fish in the diet of rural people in this region is gradually changing. With more than 3 billion people to feed and around 78 million more added each year, food shortages seem inevitable, especially among the poorer countries where rural populations that were once almost entirely dependent upon inland or coastal-near shore capture fisheries for their food have seen the decline of resources through environmental changes and changing water management regimes. To maintain this level for the next three decades would require producing an additional 30 to 40 million tons of fish per year by 2050 to meet the demands of a growing population. Rehabilitating and sustaining coastal fisheries is really required. Many of these problems undoubtedly could have been avoided or eased if the decision makers for marine fisheries of countries such as Indonesia and others in Southeast Asia had ready access to timely, precise and relevant information at the world, regional, and national levels to conduct in-depth analyses, plan strategies, base decisions, and formulate national policies.